

NYC telecom tripleheader

Senior Editor Jim Duffy takes a whirlwind tour of three network industry shows in the Big Apple.

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Organizing open source

Three companies unveil tools geared for managing change and configuration management, systems monitoring and server management in the open source world. PAGE 17.

The art of SOA management

As service-oriented architecture grows, companies are finding managing them requires some new thinking. PAGE 36.

NETWORKWORLD

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November 20, 2006 ■ Volume 23, Number 45

Gold's Gym finds VoIP a lot to lift all at once

Company's VP of IT still bullish on VoIP, but has advice on what not to do.

BY PAUL DESMOND

Facing frequent outages in the DSL lines serving 50-plus corporate-owned Gold's gyms, Bobby Badugu knew it was time for a significant network upgrade. After conducting due diligence in April into the various options

Voices FROM IT Roadmap

— including satellite, frame relay and a different DSL provider — he opted for a carrier-provided VoIP service. That's when the trouble began.

In the months that followed, the vice president of IT for Gold's Gym, based in Dallas, learned some valuable lessons about not only VoIP, but any major network project that involves upgrades to numerous, far-flung sites. Badugu shared his insights in a presentation at the recent Network World IT Roadmap Conference in

See Gold's Gym, page 24

Cool Yule Tools Ultimate holiday Wish list



Start your own Santa wish list with suggestions from our Cool Tools guy, Keith Shaw. Our list of favorite tech-related gifts begins on page 40, with more reviews and suggestions at www.nwdocfinder.com/6122.

CHRISTOPHER NAVIN

When nets go down

Researchers seeking disruption-tolerant mobile networks.

BY JOHN COX

Researchers are creating mobile networks that can sustain communications despite broken links and long delays.

The quest for such disruption-tolerant networks (DTN) is being driven by military, scientific and emergency-response wireless networks, which typically lack the connectivity, stability and predictability of conventional wired networks. Instead, researchers say, the hallmarks of a DTN are the very problems that quickly bring a conventional wireless network to its knees: frequent and unpredictable disconnections, changing nearby nodes and very long delays. The trade-off: it takes a lot longer to send and receive data over a DTN, which can be thought of as the "it's better than nothing" approach to networking.

Researchers at BBN Technologies in Cambridge, Mass.,

See DTN, page 60

Project mgmt. software can limit IT woes

BY ANN BEDNARZ AND DENISE DUBIE

As IT projects multiply and grow in complexity, keeping them on pace and on budget gets more challenging. IT professionals are finding project-management tools

can help, but they're not a cure-all.

In a recent survey from KPMG International, 81% of companies reported an increase in the number of new IT projects in the past 12 months, and 88% reported an increase in the complexity of pro-

jects. Total project budgets have risen in 79% of the 600 organizations KPMG polled worldwide.

At the same time, companies are squandering potential benefits of their IT projects because they're

See Management, page 31

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_INFRASTRUCTURE LOG

_DAY 25: They're in the cafeteria!! AAAGGGHHH!! These useless things can't work with each other. They aren't scalable. They aren't responsive. And you can't adjust new capacity on the fly. The horror.

_So many of them, I have to eat standing up. My arches are killing me. And I got avocado on my shirt.

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NETWORKWORLD

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Newsbits

Google, Yahoo, Microsoft team

■ Strange bedfellows Google, Microsoft and Yahoo have partnered to simplify how Webmasters and online publishers submit their sites' content for indexing by the companies' search engines. In a rare collaborative effort, the trio, which compete directly in Internet search and other online services, last week announced their support for the open source Sitemap Protocol based on XML. This protocol, which Google created and has been using for about 18 months, will be adopted by Yahoo, and the three companies will collaborate to extend and enhance it. Yahoo has been using another protocol, which it will continue to support. Microsoft will stop using its current protocol after it implements Sitemap Protocol in its search engine in early 2007. A site map is a file that Webmasters and publishers put on their sites to guide search engines' automated Web crawlers in indexing their Web pages properly.

Executive pleads guilty to DRAM price fixing

■ A former executive at Elpida Memory could serve time in prison and pay a \$250,000 fine for participating in a global conspiracy to fix dynamic random-access memory (DRAM) prices, the U.S. Department of Justice announced last week. D. James Sogas of Burlingame, Calif., has agreed to plead guilty to one felony charge of violating the U.S. Sherman Antitrust Act. The former vice president of sales at Elpida will serve a seven-month prison sentence if a San Francisco court approves the plea agreement. Sogas has agreed to assist the Department of Justice in its ongoing investigation of the DRAM in-

dustry, the department said. The department accused Sogas of conspiring with unnamed employees from other memory makers to fix the prices of DRAM sold to certain original equipment manufacturers from April 1, 2001, to June 15, 2002, and to coordinate bids on DRAM auctions held Dec. 5, 2001, and March 26, 2002. The price-fixing scheme directly affected sales to several U.S. computer makers, including Dell, HP, Apple and Gateway.

Attack code posted could target Microsoft

■ Hackers have posted code that could be used to target Microsoft's
See News Briefs, page 6

Ultimate holiday wish list

Start your own Santa wish list with suggestions from our Cool Tools guy, Keith Shaw. Our list of favorite tech-related gifts begins on **page 40**, with more reviews and suggestions at www.nwdcfinder.com/6122.



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Newsbits

News Briefs

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Windows operating system in a worm attack. The code, which was published late last week on the Milw0rm Web site, works on the Windows 2000 operating system, according to Oliver Friedrichs, director of emerging technologies with Symantec's Security Response. It takes advantage of a flaw in the Windows Workstation service, which Windows uses to do such things as file sharing or printing over the network. When Microsoft patched this flaw in its monthly batch of security fixes earlier this week, security vendors warned that this was one of the most critical of the November updates, and could possibly be exploited in a self-replicating worm. On Thursday, they reiterated this advice, though the odds of a wide-spread worm may not be great.

Accenture tops systems integrators

■ As IT executives again ramp up their use of systems integrators for help in aligning technology and business needs, the market has a new leader: Accenture. Accenture knocked IBM from the spot it has dominated since IDC began tracking the systems integration market in the late 1990s, the research firm says in a report issued this month. In that report, IDC analysts say Accenture is cashing in on a market that is on the upswing. "After years of sluggish returns and historic lows, the worldwide [systems-integration services] market experienced moderate growth of about 4% in 2005," the research firm says in a press release outlining the study's findings. Accenture revenue grew 8% in 2005, the study says. Stephanie Torto, IDC program manager for systems-integration business strategies, writes in the report that improved economic conditions have let companies again spend dollars on systems integration services as they place a higher focus on service-oriented architecture, infrastructure improvements and application services.

Google hires spreadsheet founders

■ Google may be planning to beef up its online spreadsheet offering by hiring the founders of iRows, a browser-based spreadsheet service. A posting to the iRows blog late last week announced that Israeli service iRows will shut down on Dec. 31 and the company's founders will join Google. Google confirmed that it has hired iRows founders Yoah BarDavid and Itai Raz and that they will work in Google's Tel Aviv and Haifa R&D centers. In June, Google introduced Google Spreadsheets, a Web-based offering that lets users create and share spreadsheets and documents online without using a software program like Microsoft's Excel. The offering was developed based on Google's acquisition of 2Web Technologies, a company that specialized in online information sharing technology. At the time of the Google Spreadsheet service launch, there was some speculation that Google had bought iRows to create the offering.

Wireless, electrical energy probed

■ MIT researchers described last week how wireless

energy could be used to power an array of mobile devices. Their work is taking the well-known phenomenon of electromagnetic induction (by which a current running in one coil can induce a current in another nearby coil) and extending it over much longer distances than previously had been thought possible. It's still not really long distances, merely the length of a room. But what's known as a nonradiative power transmitter could generate an electrical field that a specially designed receiver, in a laptop or cell phone for example, could pick up and use to charge its batteries. The nonradiative part is important: Attempting to transfer energy between two points via electromagnetic radiation is inefficient and potentially dangerous, according to a story on the Newswise.com Web site, which reported on the presentation made earlier this week at the annual 2006 American Institute of Physics' Industrial Physics Forum.



{quote of the week}
{quote of the week}
{quote of the week}

"Those that say open source software can't be safe for customers — or that commercially indemnified software can't foster community — are merely advancing their own agenda. Without any basis in fact."

Sun CEO Jonathan Schwartz, while criticizing the Microsoft-Novell open source deal

See story at www.nwdocfinder.com/6133

Security vendor settles charges

■ Guidance Software, vendor of computer forensics and security products, has settled a complaint filed by the Federal Trade Commission, which accused it of failing to take reasonable security measures to protect sensitive computer data. Guidance's lax security efforts, which let hackers access the sensitive credit-card information of thousands of customers, contradicted promises made on its Web site and violated U.S. law, the FTC said. The settlement, announced late last week, requires the company to implement a comprehensive cybersecurity program and obtain independent security audits every other year for 10 years, the FTC said. A Guidance spokeswoman didn't immediately return a phone call seeking a comment on the settlement. (See Columnist Scott Bradner's view of how ChoicePoint has shored up its security, page 20.)

Apple iPhone rumors multiply

■ Rumors that Apple plans to launch a mobile phone next year are gaining momentum, though the company's Taiwanese manufacturing partners are giving little away. A Taiwanese newspaper reported last week that Apple already had ordered 12 million iPhones from contract manufacturer Hon Hai

TheGoodTheBadTheUgly

Thanksgiving parade relief. A company called PublicRoutes.com, which provides transportation, weather and other information, is taking pity on the throngs that take in New York City's annual Thanksgiving Day Parade in person. The company is offering a feature that will in clue parade watchers to the best viewing spots and how to work their way around the parade to get to them.

< As if SOX isn't bad enough

... there's the case of the dirty socks. Data-recovery company Ontrack has issued a list of its top 10 data loss disasters. Number 1: "Although the circumstances of the original data loss were unremarkable, the problem was intensified when the customer shipped his drive to Ontrack in a pair of dirty socks. The old socks didn't provide the necessary protection during shipping, and the resulting damage made the recovery more challenging than normal."

Microsoft labels Google's Gmail as virus.

Microsoft's fledgling consumer antivirus service, Windows Live OneCare, wrongly identified Google's Gmail service as a virus infection last week, Microsoft has admitted, via TechWorld, a *Network World* sister publication.

Precision Industry. Apple plans to launch the music-playing device in the first half of next year, the *Commercial Times* newspaper reported, without identifying its sources. Component makers are not confirming the news. Tripod Technology, a maker of circuit boards for cell phones and other devices, cited nondisclosure agreements when it declined to comment last week on what it called customer-related issues. Hon Hai Precision, which makes Apple's iPod music player, also declined to comment, for the same reason.

Microsoft plans CardSpace plug-in

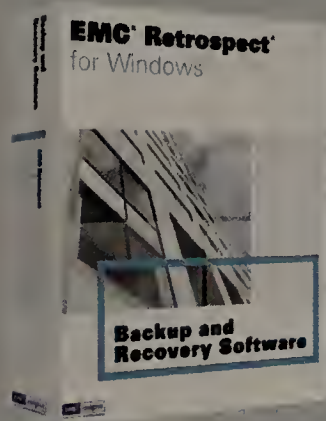
■ Microsoft will write a software plug-in that lets the Firefox open source Web browser work with Microsoft's CardSpace identity management technology. The plug-in will be written at Microsoft's Open Source Software Lab and eventually released to the open source community, said Hank Janssen, the lab's program manager, at the TechEd IT Forum in Barcelona last week. "We're actually writing the CardSpace extension, and they [The Mozilla Foundation] were very, very excited about it," Janssen said. CardSpace, which formerly was called InfoCard, aims to make it easier for users to manage and control the personal information they give to Web sites. Microsoft is promoting it as a way to replace user names and passwords and provide a better defense against phishing and other types of online fraud.

COMPENDIUM

Social-network deaths

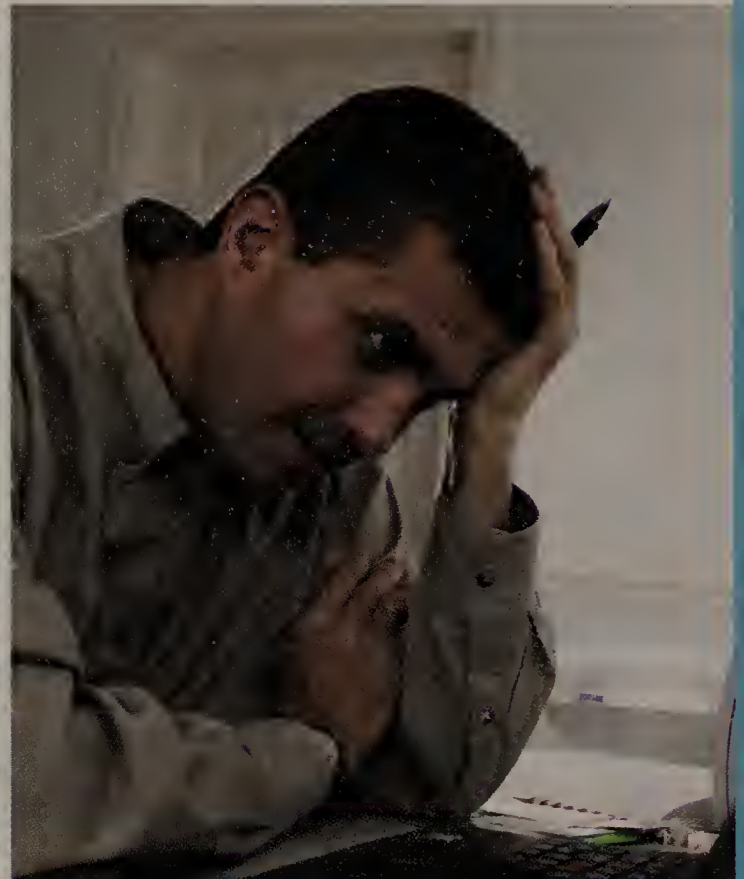
I recently ran across a LinkedIn entry for somebody I know died a few months ago. Turns out that's also an issue for MySpace — somebody has created a site called MyDeathSpace to chronicle MySpace users who have left this mortal coil. See it at www.nwdocfinder.com/6151.

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TECHWORLD

LAPTOP



■ **64-bit Vista security.**

Microsoft created some controversy in the security market by basically preventing third-party vendors from accessing the kernel in the 64-bit version of its new operating system. Valid security move or attempt to block competing vendors? We put the question to security-minded *Network World* columnists and testers and to security vendors. Read what they have to say.

www.nwdocfinder.com/6140

■ **How much porn is too much?**

A government report that only 1% of all Web pages contain sexually explicit material still means more porn than anybody could ever hope to look at, because there are so many Web pages, one user writes: "Let's put it this way, if someone spent 30 seconds to view each Web page of porn, it would take about 57 years for that person to view it all."

www.nwdocfinder.com/6141

■ **Bank of America's Web-site uptime.**

A Swedish company that monitors Web-site uptime says the bank's site is down a fair amount. The bank disputes it. One of our users allows as how there might have been issues this fall but says that's due to the bank digesting MBNA: "Two days and three hours of downtime to convert 40 million-plus credit card accounts is pretty damn amazing. Not to mention that nearly all of the downtime was on several Sunday mornings between the hours of 12 a.m. and 6 a.m. when customer transactions are lightest. Outages are necessary in order to install code changes and perform conversions without interrupting customer transactions."

www.nwdocfinder.com/6142

■ **When the wireless card stops working.**

Ande says his wireless connection got stuck on "acquiring network address" after two years of flawless service. The solution? Delete his old connection configuration and create a new one. www.nwdocfinder.com/6143

FOLLOW THESE LINKS TO MORE RESOURCES ONLINE

BLOGOSPHERE

This year's top 10 turkeys

Plus: The BSOD screensaver and YouTube gets tough.

This year's top 10 turkeys. In honor of Thanksgiving, here are our picks for 2006's biggest turkeys in IT. And boy, there were some doozies. The hardest question for the editors was which one takes the top spot. Bernie Ebbers? Microsoft? Sony? Go online to find out. www.nwdocfinder.com/6164



Please allow 10 business days for what?! Mark Gibbs applauds Marriott for sending out e-mail newsletters for information about its ser-

vices. However, if you try to unsubscribe from them, you get a message saying, "Please allow 10 business days for processing." Gibbs responds: "What the hell takes 10 days for an unsubscribe to be processed?" www.nwdocfinder.com/6159

Amuse your friends with the BSOD screensaver. Microsoft is apparently offering a screensaver based on the infamous "Blue Screen of Death," claiming that "its accuracy will fool even advanced NT developers." Layer 8 scopes it out. www.nwdocfinder.com/6160

YouTube gets YouTough. In Compendium, Adam Gaffin highlights the online "battle of Web 2.0 titans," as TechCrunch gets a cease-and-desist letter from YouTube for creating an application that allows you to download YouTube videos to your hard drive. What's that? YouTube accusing others of copyright infringement? www.nwdocfinder.com/6161

IT VIDEO

Hot Seat interviews, the coolest tools, and more



Hot Seat: How to save \$2M in the data center.

BladeLogic CEO Dev Ittycheria says automation and management tools can deliver a 3- to 6-month ROI and save a company \$2 million per year. www.nwdocfinder.com/6148



Cool Tools: Exclusive Sony PS3 video.

Denied a

PlayStation3 by Sony, Keith Shaw finds an underground source to ship him a PS3, although he has some doubts about the high-end features. www.nwdocfinder.com/6149



Twisted pair podcast: Marshmallows and vegetables don't mix.

Jason Meserve and Keith Shaw discuss the "Top 20 Security Threats" report from SANS Institute. Plus: what Jason puts on his plate at Thanksgiving. www.nwdocfinder.com/6150



Find the answers to these prickly problems online.

■ **This week:** Getting through DHCP.

Columnist Ron Nutter helps a user with a couple of tough DHCP problems.

Help Desk response:

www.nwdocfinder.com/6144

Joshua Wright identifies security issues with pre-802.11n wireless devices.

Help Desk response:

www.nwdocfinder.com/6145

M.E. Kabay points you to a valuable Web site for establishing good security practices.

Help Desk response:

www.nwdocfinder.com/6146

Columnist Mike Karp looks at the potential of InfiniBand.

Help Desk response:

www.nwdocfinder.com/6147



BEST OF NW'S
NEWSLETTERS

XenSource unveils virtualization package

Plus: Can Red Hat go it alone?

Servers and data centers:

XenSource last week launched XenEnterprise for Windows and Linux, a software package based on the Xen virtualization hypervisor. The software, which lets Windows and Linux operate as guest operating systems under Xen, is expected to be available next month. Deni Connor reports. www.nwdocfinder.com/6134

Linux: If Red Hat wasn't having a bad enough November — following the announcement of Oracle's strategy to steal away Red Hat support customers — the Novell/Microsoft Linux pact may have made it worse. Phil Hochmuth says the enterprise IT market could be becoming a lonely world for Red Hat. www.nwdocfinder.com/6135

Wide-area network: How strict is your organization when it comes to what people can and cannot access on the company network? A recent survey by Steve Taylor and Jim Metzler finds that what is determined to be network misuse, such as listening to Internet radio or visiting nonbusiness Web sites, depends a lot on what company you work for. www.nwdocfinder.com/6136

VoIP and convergence: Cisco recently announced the results of its fiscal first quarter, which saw a 24.94% growth in year-over-year revenue. It showed how the earnings results show that spending for high-capacity IP communications is growing. Steve Taylor and Larry Hettick report. www.nwdocfinder.com/6137

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NYC telecom conference triple-header

Changing service-provider models, advanced Ethernet are talk of the town.

BY JIM DUFFY

NEW YORK — Three telecommunications conferences in midtown Manhattan last week revealed an industry at a turning point — as it shifts to a media-centric focus, and as advanced Ethernet, wireless and other technologies change the look and economics of the market.

Yankee Group Telecommunications Industry Forum

Corporations will have to change the way they deal and interact with service providers and vendors, presenters at the Yankee Group Telecommunications Industry Forum said. As the service environment changes from one based on communications to that based on media or content, enterprises will find they are not doing business with the usual suspects.

"You can't necessarily view the communications provider as the center of this new universe," said Berge Ayvazian, Yankee Group chief strategy officer.

As service-provider business models transform from communications-centric to media- or content-centric, service providers and vendors will be required to participate in a federated ecosystem of application, media, content, communications and device vendors. Many more companies, including new entrants, will play a role in the overall service experience, which probably will change the way enterprises contract for services or buy products.

The key for service providers is to capitalize on such trends as Web 2.0, said Phil Marshall, vice president of enabling service-provider technologies at Yankee Group. They also will have to get used to not necessarily managing or controlling the ecosystem or the customer experience as they do today — but which no longer will be economically ideal to do.

"Service providers who maintain a walled garden pay a premium for excessive network investments and to control devices," Marshall said.

Service providers' subscriber-based business models — those based on average revenue per user — are likely to be disrupted, Marshall said. They'll have to build a service portfolio around this federated ecosystem and shift their subscription-centric business model to a community-centric model.

And though service providers are preparing for this mixed, multimedia service experience by migrating to a network architecture based on IP Multimedia Subsystem (IMS) standards, Marshall said traditional Session Initiation Protocol-based IMS is not optimized for the new

model, because it facilitates the expensive walled-garden approach. Instead, a media- and community-centric model requires a more open environment, he said.

UBS Warburg Global Communications Conference

A block away from the Yankee Group conference on Madison and 45th, the talk at the UBS Warburg Global Communications Conference was of imminent change — and the consequences of not embracing it. Ethernet, for example, is changing the economics of networking, said Marc Randall, president and CEO of 10 Gigabit Ethernet pioneer Force10 Networks during one session.

Servers clustered via 10Gbps Ethernet to achieve supercomputer performance are making their way from research institutions into mainstream corporate America, he said. Technology first deployed in computing-intensive research laboratories migrates into the Fortune 500 in three years instead of many, Randall said.

"It's a great total cost of ownership model; it's a pay-as-you-grow model," he said of clustering off-the-shelf servers with relatively inexpensive 10Gbps Ethernet ports.

Because of these economics, driven largely by volume pricing, service providers are drinking the Ethernet Kool-Aid and evaluating Ethernet as a transport replacement for SONET. Each laptop now ships with an integrated Ethernet port, Randall notes.

"There's no SONET on anyone's PC," Randall said. "There's no driving force to bring the price down."

"I predict the economics of networking are going down the same as voice," Randall said. "There are going to be radical changes."

The ability to accept, harness and take advantage of those changes will separate leaders from managers, said Carly Fiorina, former CEO of HP, who delivered a keynote address. Management is about delivering production based on known results, she said, while leadership is about changing the order of things based on the trajectory of a business.

Perhaps that explains why there are more managers in the world than leaders.

"The natural momentum in any organization is to preserve the status quo," Fiorina said, perhaps reflecting on her tumultuous days leading HP during the company's acquisition of Compaq and ultimately being ousted last year. "Even when people know [change is] needed, it's resisted."

Running a business on income statements and balance sheets — examples of lagging indicators, according to Fiorina

— is operating on old information, decisions already made, she said. Running a business on leading indicators — innovation, customer satisfaction, diverse opinions in decision making, ethics and sound judgment — is an example of leadership.

"Successful change comes when people find common ground," she said of the need to lead by basing decisions on diverse opinions.

Leadership involving change comes with risk, of course. HP's decision to acquire Compaq, pushed hard by Fiorina, didn't pay off fast enough for the HP board and led to Fiorina's dismissal after six



"I predict the economics of networking are going down the same as voice."

Mark Randall, president and CEO, Force10 Networks

years at the helm.

Thursday's UBS Warburg conference program provided an overview of where some players in the network security and management marketplace are focusing their efforts.

The morning started with a briefing by Entrust on its priorities for the consumer market. Late this year or in early 2007, the company plans to roll out a product called Extended Validation SSL (EV SSL).

EV SSL will change the color of a browser screen once a user has passed through all authentication procedures, says Bill Conner, Entrust's president and CEO. Microsoft will support EV SSL in its upcoming Vista operating system release, he said.

Websense, a maker of URL filtering tools, will continue to expand its products in Web security and extend them to other media and content.

The company plans to unveil a data-leakage product late in the second quarter of 2007, said CFO Doug Wride. This product will detect Trojans and other malicious code, unknowingly introduced into corporate networks by employees surfing the

Web, that might expose sensitive data.

"We'll focus on data leakage for at least the next couple of years," Wride said. He said the market is expected to grow 10-fold during the next five years to \$763 million in revenue.

On the management side, BMC Software plans to unveil Release 2.3 of its Performance Manager software next month, said CEO Bob Beauchamp. Performance Manager essentially is a renamed and enhanced version of BMC's Patrol and Patrol Express software that consolidates management information into a single view, with central configuration, reporting, administration and a configuration management database.

BMC also plans to market aggressively its line of business service management (BSM) software intended to automate IP processes and people. BSM is an approach to application and infrastructure management that involves identifying critical business services and managing the infrastructure to support them.

Forrester Research believes firms that implement BSM potentially can shave 25% off the 76% of the overall IT budget that goes to operations.

"It's ludicrous that IT is the last automated department today," Beauchamp said.

Wall Street Technology Association conference

At the nearby Wall Street Technology Association conference at 54th and Sixth, guest speaker Nick Lippis explained how Moore's Law and Metcalfe's Law are intersecting. Moore's Law states that processing power doubles and its cost halves every two years; Metcalfe's Law states that the value of the network increases as the number of endpoints increase.

Lippis, an industry analyst, said the intersection of Moore's and Metcalfe's laws is creating an IP black hole into which all legacy telecom and even national entertainment networks will be subsumed.

"We're just at the beginning stages of seeing all that stuff sucked in," Lippis said.

Several "meta drivers" are behind this, Lippis said, including client/server computing moving to peer-to-peer networking, low-cost WAN bandwidth allowing data-center consolidation and shadowing, wired and wireless access becoming smart secure access, and networks migrating from a connectivity service to a business platform.

Such trends will shape the future of network technology, he said, which will include a 400% compound annual growth in the number of RFID-enabled endpoints. ■

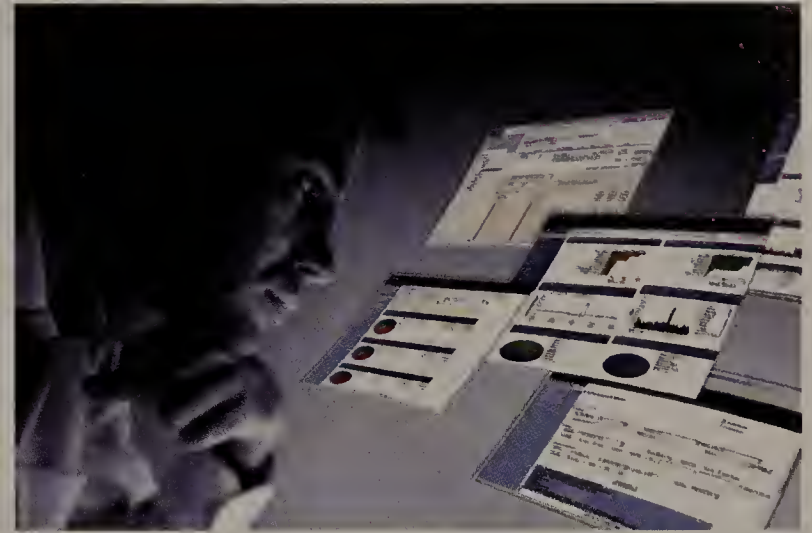
Enterprise Performance Management

Managing application performance over the network

Helping the IT team become more efficient and proactive

In July 2006, Dennis Drogseth, Network Services Practice Leader and Vice President with consulting firm Enterprise Management Associates, made the following observations: "Managing applications across the network is accelerating in importance to a degree unimaginable in the past because of the increasingly distributed nature of working, the growth in application complexity...managing application delivery over the network will require tightly-knit team dynamics supported by management technologies that allow application and network specialists to see the world consistently...the notion that managing application delivery over the network can be done effectively by a group of enclaved individuals with siloed tools – no matter how good those tools are – simply won't work when so much is at stake and when the levels of interdependency between network performance and application performance are so high."

Application performance problems cause ripple effects throughout a business, from reduced employee productivity to increased customer dissatisfaction and loss of business. They also significantly reduce IT department efficiency, as staff members are repeatedly pulled away from development projects to troubleshoot performance issues.



Why monitor application performance?

Companies have many reasons for monitoring application performance.

A multinational supplier of engineered materials, natural resources, and technology-based services relies extensively on its mission-critical network to connect its many locations. A MPLS migration was planned to support a global rollout of an enterprise resource planning (ERP) application that would touch nearly every function of all its businesses. They needed a solution that could provide in-depth WAN insight, create utilization baselines, and help in properly prioritizing and managing the growth of applications on the network.

A major insurance company wanted to proactively track compliance with service level agreements (SLAs). The company also wanted to test how infrastructure changes (such as consolidating servers) would affect end-user response times, as well as reducing troubleshooting time by seeing exactly what was happening at the time a problem occurred.

A major US commercial bank values good application performance because it maintains end users' productivity – so when problems do occur, the bank needs to troubleshoot them efficiently. "We were spending a minimum of 20 hours a month – sometimes up to two or three weeks – trying to diagnose the cause of application slowdowns," says a network engineer. "We just didn't have the staff to keep doing that." A particular problem, he notes, was trying to determine if a slowdown was a network issue or a server issue. "When our network team thought it was a server problem, the server team would often claim it was a network problem," he said. "It was difficult to pinpoint the exact trouble spot."

Fluke Networks to the rescue

These three companies have found Fluke Networks' Enterprise Performance Management solutions provide accurate, detailed insight into application

performance throughout the enterprise. As a result, IT staff can quickly determine whether a problem is network, application, or server related and can rapidly resolve the issue.

For example, the CIO of the multinational supplier stated, "Visual UpTime Select was instrumental to the success of our multi-million dollar ERP initiative because it gave us the knowledge and confidence that our MPLS network was fully optimized for the rollout. With Visual UpTime Select, we could see how our ERP application performed on the network by viewing application throughput in real-time and we could quickly detect and troubleshoot traffic anomalies. As we made our migration from frame relay to MPLS, the technology once again proved itself by providing us with the functionality to ensure the migration and the ensuing ERP deployment was quick and painless."

Today, their network is served by three major carriers and supported internally by a handful of individuals. The company's network challenges are increasingly focused on managing the wide array of traffic – ERP, Citrix, email and Web, among the most notable – traversing its network. In fact, the organization has seen a 35 percent growth in application utilization in the past few years across its 70 global sites.

"Using Visual UpTime Select, we are able to pinpoint network traffic anomalies before they disrupt the flow of business," concluded the CIO. "This technology is the core component in our WAN management solution. It saves us significant time and money and allows us to deliver an exceptionally high level of WAN service at a reasonable cost."

While this organization needed complete WAN-based visibility into each of their locations, other companies have found that a data center-based approach to performance management is a better fit for their requirements. Fluke Networks provides its customers a variety

of performance management options – creating unique solutions for unique needs.

According to the insurance company's IT manager, "SuperAgent helps us better serve our end users by being proactive with application performance issues – and being able to more effectively baseline application performance helps us ensure that we meet our established service level agreements for transaction times." When problems do arise, he notes that SuperAgent "can mean the difference between a one-hour slowdown and a one-day slowdown."

The commercial bank finds SuperAgent's performance monitoring capabilities make the IT department more proactive, identifying and resolving problems before users are even aware of them. The tool's enhanced troubleshooting capabilities save them at least 20 hours a month. Plus, it has made a big difference in the relationship between the network and server teams, replacing finger-pointing with cooperation. "Now the server team comes to us when they have a problem and asks us to monitor their servers," says a network engineer. "We also get requests for troubleshooting help from other business groups in the main office. They all think SuperAgent is fantastic – they are overwhelmingly impressed with its reports." He also describes a case where slow performance of a vendor-hosted application was causing a department to fall behind in its work. SuperAgent identified the vendor's server as the source of the problem, and the vendor – who hadn't previously been aware of the difficulty – was able to quickly fix it. "We just couldn't do any of this without SuperAgent," concludes the bank's network engineer.

For more information

To learn more about application performance management solutions, visit www.flukenetworks.com/APM

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AT&T offers dynamic IPSec device

BY ELLEN MESSMER

AT&T is installing encryption equipment throughout its IP-based network that lets the carrier provide more-flexible IPSec-based security to business customers for their voice, video and multicasting.

Ron Howell, AT&T senior network architect, says the services, which are based on CipherOptics encryption gateways, are "going to make IPSec simpler and easier, because we can now build tunnels dynamically." AT&T's traditional approach — providing business customers with IPSec services via routers — has turned out to be too rigid as a point-to-point service, he says.

Howell says AT&T for the past year has been investigating other technical approaches that still support IPSec and has determined that the CipherOptics' CipherEngine Policy & Key Manager provides encryption flexibility well-suited for VoIP, video and multicasting.

"It separates the key function from the encryption function," Howell says. "We can manage the keys more efficiently. We can build tunnels dynamically."

The CipherEngine includes the Secure Gateway appliance for encrypting or decrypting traffic at speeds as fast as 1.9Gbps and a separate server-based "key-authority point" for setting IPSec-based encryption policy, algorithm and key length. Its supported algorithms include the Advanced Encryption Standard.

Ron Willis, CEO at CipherOptics, says the Security Gateway typically is placed behind the router connecting to the Internet.

The Security Gateway "is doing rapid packet inspection and security policy look-up," Willis says, and encrypting traffic according to the intended corporate policy. Encrypted traffic sent from one Security Gateway would be decrypted on the receiving end by another Security Gateway. It can send traffic to any other vendor's IPSec gateway, and it will work over AT&T's MPLS network. ■

Avaya buys Traverse, eyes VoIP boost

New pricing, features for Avaya's unified messaging software due in early 2007.

BY PHIL HOCHMUTH

Avaya last week acquired Traverse Networks for \$15 million and announced simplified pricing for its various VoIP software platforms — moves the vendor hopes will be a one-two punch against Cisco and Nortel the mobility and collaboration.

Avaya acquired Traverse for its fixed-mobile convergence software, which allows users to access corporate IP PBX features, voice mail, e-mail and other resources over a secure cell phone data connection.

Timed with the acquisition, Avaya announced a repackaging of its unified communications products, including a new four-level product structure that the vendor says will make it simpler and less expensive for customers to buy and install the technology.

Traverse, a 5-year-old start-up based in Fremont, Calif., makes mobile phone applications including Visual Voicemail, which aggregates a user's office voice mail messages and displays details about them on a cell phone

Unified messaging, simpler packaging

Avaya's new unified messaging and collaboration lineup, due in February 2007, lays out cumulative features, pricing options.

	Unified Communications Essential Edition	Unified Communications Standard Edition	Unified Communications Advanced Edition	Unified Communications Professional Edition
Features:	Basic access to a combined voicemail/e-mail inbox; basic voice conferencing capabilities	Features included in Essential Edition plus application extension to mobile phones and devices	Features included in Standard Edition plus whiteboard and collaboration features based on Avaya's SIP-based Meeting Exchange package	Features included in Advanced Edition plus video conferencing and speech recognition.
Pricing:	\$160 to \$170 per user depending on the size of a deployment	\$305	\$405	\$525

in a manner similar to an e-mail in-box. Users can listen to, delete and forward messages on the office voice mail system from the cell phone interface.

Traverse CallConnect extends control of a desktop IP phone to a mobile device application interface. From a cell phone, a user can program a simultaneous-ring feature so an incoming call to an office phone extension

or cell phone will ring both devices, for example. PDAs and smart phones running Java 2 Micro Edition, as well as Research In Motion's BlackBerry devices, can run the Traverse client software.

The server-based component of Traverse's product sits in front of a corporate IP PBX or IP-enabled phone, behind a firewall. Called Mobility Server, the

application communicates with IP PBX and messaging systems, and connects these internal servers, via an encrypted data tunnel, to external cell phones running the Traverse client.

Avaya's Traverse acquisition could be considered a counter-move to Cisco's purchase of Orative in October. Cisco paid \$31 million for the start-up, which makes software that ties together mobile phones with corporate IP PBX and messaging systems.

Traverse's platform works with Cisco CallManager but not with Avaya's VoIP technology. Avaya says it will integrate Traverse into its IP PBX and messaging products in 2007, and continue to support Traverse on Cisco CallManager.

Meanwhile, Avaya also is reorganizing its various unified messaging and collaboration software products into four packages: Unified Communications Essential, Standard, Advanced and Professional. Each edition is a mix of messaging, conferencing and other features that exist in Avaya's various platforms, along with some new capabilities (see graphic).

Avaya says its Unified Communications products will interoperate with Microsoft Office Communicator in early 2007. Cisco's Unified client and server software interoperate with Microsoft Office Communicator.

In July, Nortel announced a four-year partnership with Microsoft to tightly integrate Nortel's IP telephony gear with Microsoft's VoIP and collaboration products. ■

Nortel reinforces SMB gear with stackable switches, VoIP

BY PHIL HOCHMUTH

With an eye toward streamlining and simplifying small and midsize business operations, Nortel last week introduced an array-stackable switch and added some big-business phone features to its low-end IP PBX product.

The Nortel Business Ethernet Switch (BES) 210 series includes the ability to stack multiple boxes together to create a larger virtual switch, which can be more easily managed as one device, Nortel says. The company's BES 220 adds Power over Ethernet (PoE) to the stackable product. A new release of Nortel's Business Communications Manager (BCM) 50 for small offices — fewer than 50 users — includes call center, advanced messaging and international support features.

The BES 210 and 220 (both in 24- and 48-port 10/100/1000Mbps versions) join Nortel's other BES-branded LAN switches and other gear, announced in June, which are targeted at small companies.

The BES 210 adds stacking capabilities, allowing as many as eight switches to be linked by a 10Gbps-dedicated interconnection cable. This feature lets attached devices see the switch as a single box and provides fast interswitch connectivity. The BES 220 includes this stacking feature, and it

adds PoE to each port on the switch, for power standards-based IP phones, wireless LAN access points and other PoE-compatible devices.

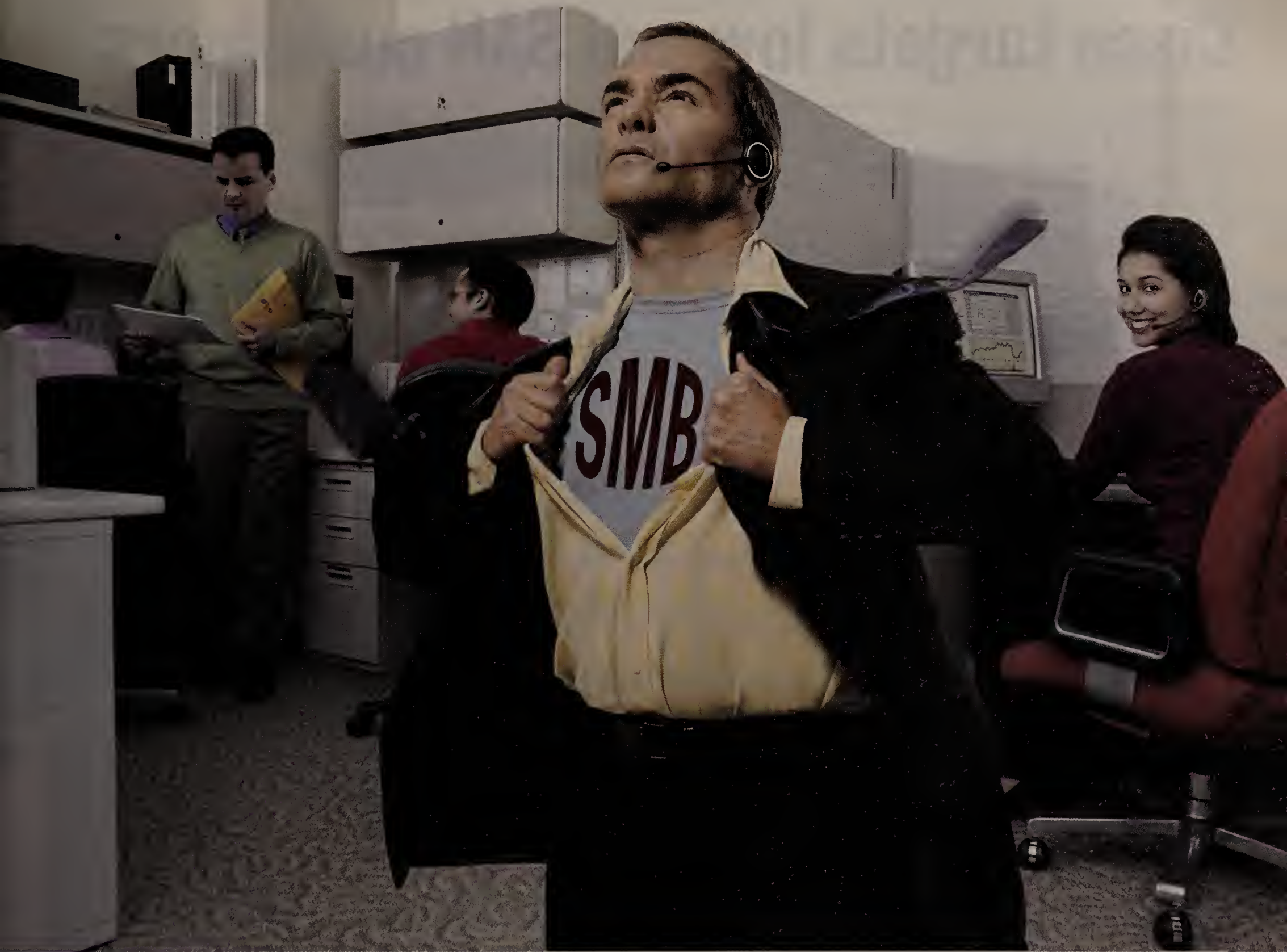
BCM 50 Version 2 improves on the previous small-office IP PBX appliance with a call-center feature that lets small groups in an office act as a contact center team; call routing and queuing, and customer-call detail reports are some of the things that can be set up for agents on the BCM 50.

The updated BCM 50 includes new analog and Basic Rate Interface ISDN trunking ports, meant for international markets.

Nortel's BES LAN products compete with small-office gear, such as 3Com's Baseline switch products, as well as Cisco's Linksys and lower-end Catalyst switches, and switch gear from HP. The BCM 50 is comparable to Avaya's IP Office, Cisco's CallManager Express, as well as with SMB VoIP gear from Mitel, Zultys and others.

The BES 200 series switches range in price from \$600 to \$2,290. The BCM 50 costs \$500 for a software upgrade to Version 2.0. The BCM hardware costs \$350 to \$500 per seat, depending on configuration. The switches are available, while the BCM 50 upgrade is expected to be available in December. ■

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Cisco targets low-end SAN customers

BY DENI CONNOR

Cisco plans to roll out a low-end Fibre Channel switch this week that supports some features of its larger director-level switches, such as virtual storage-area network capability.

The MDS 9124 Multilayer Fabric Switch is an expandable 24-port 4Gbps Fibre Channel switch that can be configured in eight-port increments. It includes an easy-to-use configuration wizard to simplify installation and SAN setup for businesses with limited IT SAN skills, the company says. Like Cisco's other MDS 9000 Series Multilayer Director switches, the 9124 uses Cisco's SAN-OS operating system, which provides for high performance and resilient connections between switches.

The switch supports Port-Channel aggregation software for link redundancy and load balancing, and has support for virtual SANs so customers can partition storage resources more easily.

The MDS 9124 is 1U (1.75 inches) high and can be expanded on-demand by activating port licenses. It features redundant and hot-swappable fans and power supplies for resiliency. The switch can be managed over an in-band IP over Fibre Channel connection or out of band using Ethernet.

The 9124 fits into the low end of Cisco's MDS 9000 family of Fibre Channel switches and directors, which range from the fixed-port MDS 9020 with 20 ports to the MDS 9513 Multilayer Director with 528 ports.

The MDS 9124 competes with McData's Sphereon 4400 and 4700 Fabric switches and Brocade's Silkstorm 4100 switches, all expandable-port Fibre Channel switches. Unlike these switches, the MDS 9124 includes management, performance and other software for tuning the switch.

McData's Sphereon switches, in contrast, include only Enterprise Fabric Connectivity Manager Basic software for configuring the switch. For the same functionality in a Brocade switch, a customer would need to add an optional Fabric Watch license, Advance Performance Monitoring software, an Extended Fab-



Cisco's MDS 9124 Multilayer Fabric Switch is an expandable 24-port 4Gbit/sec. Fibre Channel switch that can be configured in eight-port increments.

rics and Inter-Switch Link Trunking License and an E-Port license.

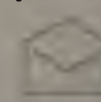
Analysts say this bundling of software with its switches is an important differentiator.

"You need to look beyond the number of ports and physical similarities and look at the functionality you get for a given

price," says Greg Schulz, senior analyst for Storage I/O. "For instance, with the Cisco MDS 9124, you get a fabric manager, fault management and [virtual] SAN capability in the price of switch. You are getting the same functionality you have with other Cisco products even though you've scaled down."

The MDS 9124 switch is expected to be available in December through Dell, Hitachi Data Systems, HP, IBM, Network Appliance, Sun and Xiotech starting at about \$5,000 for an eight-port model.

The company also is expected to announce that it will make embedded Fibre Channel blade switches for blade server manufacturers IBM and HP. These blades are expected to be available in February of next year. ■



STORAGE

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Start-up enters virtualization fray

Evergrid lets IT staff shift application loads to handle resource management.

BY JENNIFER MEARS

Evergrid made its official debut last week with a virtualization suite designed to deliver mainframe-like reliability for applications running on clusters of commodity Linux servers.

The company's virtualization products separate applications from the operating system so that software processes can be saved at any point in time, thus reducing downtime and allowing applications to be shifted as necessary. Evergrid timed its launch with last week's SuperComputing 2006 show in Tampa, Fla.

"Today, complex parallel applications ... are constrained by hardware," says Dave Anderson, Evergrid's CEO. Anderson was formerly CEO of e-mail security firm Sendmail and served as CTO and general manager at Amdahl before coming to Evergrid.

When there are hardware failures, applications running parallel on commodity clusters typically have to be completely restarted. In addition, there is no easy way to move applications among different hardware platforms, he says.

"We end up with silos and servers dedicated to a particular application because we don't have the ability to move servers back and forth from one kind of application to another, so that leads to increased management costs," Anderson says.

Evergrid tackles both the availability and resource-management issues with its

Profile: Evergrid

Headquarters:	Fremont, Calif.
Founded:	2004, spun out from supercomputer builder California Digital
What the company does:	Offers Evergrid Availability Management Suite, which includes Availability Services for application recovery and restart and Resource Manager for workload scheduling.
Management:	CEO Dave Anderson, formerly of Sendmail and Amdahl; CTO Srinidhi Varadarajan, director of the Center for High-End Computing Systems at Virginia Tech; and President B.J. Arun, co-founder of California Digital.
Funding:	\$6 million from Acartha Group and individual investors.
Employees:	40 in Fremont; Blacksburg, Va.; and Bangalore, India.
Customers:	The University of Oklahoma and an undisclosed financial services firm.
Competition:	Availigent, Platform Computing, IBM
Fun fact:	Varadarajan learned how to fly a jet before he could drive a car.

Availability Management Suite of software, which includes Evergrid Availability Services for application recovery and restart and Evergrid Resource Manager for workload scheduling, according to Anderson.

The software inserts an application virtualization layer between the operating system and the application, without any modification to the application itself, Anderson says. It runs on physical servers as well as atop virtual machines created with software from VMware and Xen, adding "less than 5% overhead," Anderson says.

"What we're able to do with this application virtualization layer is we can do checkpoints

of the distributed application without stopping the application and without stopping I/O," he says. "We end up with a globally consistent snapshot of an entire set of nodes so if there is a failure we can reload all the nodes and restart the application from the point that we last did one of those snapshots."

In addition, the software handles resource scheduling so that higher priority jobs can kick off lower priority workloads, which can be restarted from the point at which they were displaced when the higher priority job is completed, he says.

The software, which can scale to tens of thousands of nodes, is aimed at the high performance computing space. Early customers include an undisclosed financial services firm as well as the

University of Oklahoma. The company plans to release a version aimed at business workloads, such as databases and transaction processing, by the end of next year, Anderson says.

The Availability Management Suite, which will be available soon, will be priced per node on a subscription basis, with volume discounts, Anderson says.

Analysts say Evergrid is targeting an important area as organizations put more critical applications on commodity servers running Linux. It competes with vendors such as Availigent, Platform Computing and IBM, which purchased application virtualization specialist Meiosys last year. ■

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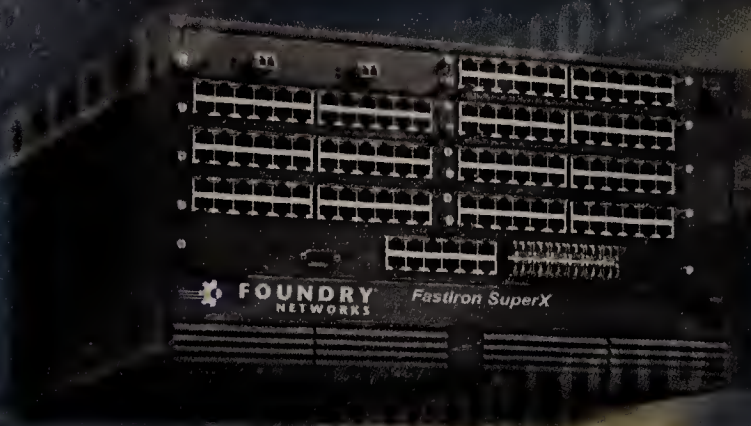
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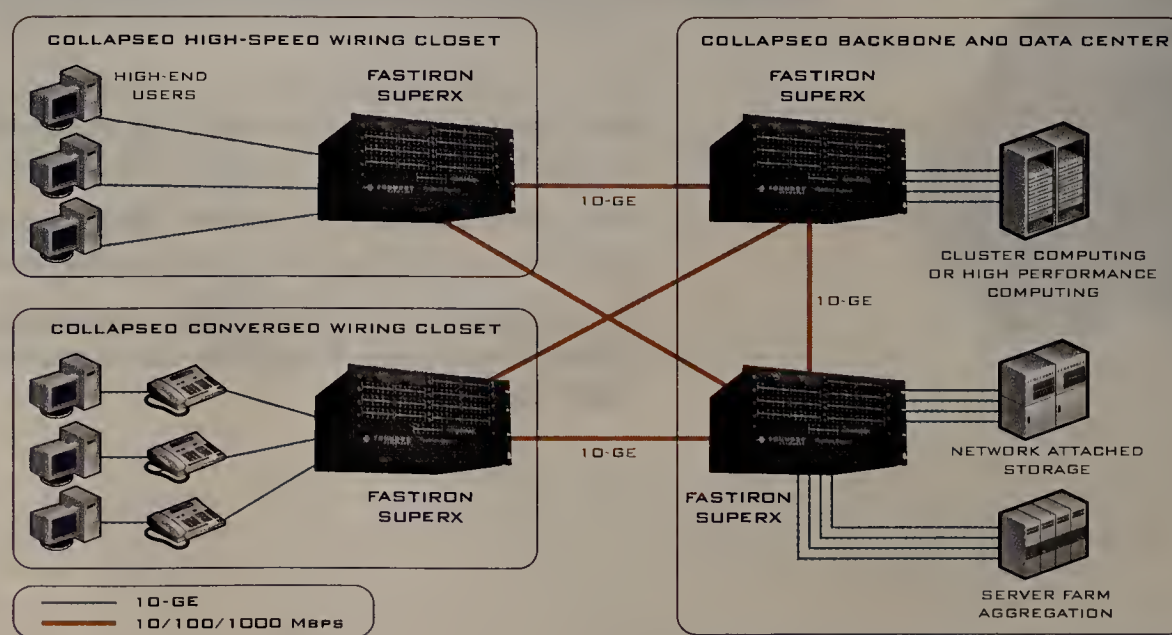
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Mgmt. vendors debut open source wares

AlterPoint, Qlusters and Zenoss release management tools.

BY DENISE DUBIE

The selection of open source software available to network managers just got a little bigger, as three companies separately unveiled tools geared for change and configuration management, systems monitoring and server management.

AlterPoint last week launched ZipTie, a free open source project

that provides access to the source code for the vendor's DeviceAuthority Suite under the Mozilla Public License.

DeviceAuthority automates a discovery process, which reports back hardware and software configuration data from every device to be managed. Network administrators can then set policies and rules that

the software can enforce.

ZipTie, a name loosely based on network managers' desire to tie together many components in their environments, is a client-side application that can be downloaded to a Windows or Linux machine. It features device discovery and backup, configuration comparison, change detection, and a set of tools for per-

forming administrative functions on network devices such as routers, switches and firewalls.

AlterPoint plans in the first quarter of next year to offer a support package with its ZipTie application. The vendor also has launched an open source community to get IT managers working together on the challenges of heterogeneous network change and configuration management.

Industry watchers say AlterPoint is primarily trying to bring in customers through an open source door, but the proven technology could benefit IT managers with limited budgets.

"It is worth a look, certainly for comparison's sake," says Stephen Elliot, a senior analyst with IDC. "It really depends on the level of functionality and the level of support. Both have to be communicated clearly for customers to take it seriously."

Meanwhile start-up Zenoss last week made available an updated version of its free open source network and systems monitoring software. Zenoss Core 1.0 is now backed with support offerings from Zenoss, which start at \$75 per year, per device, and range from typical tech support to dedicated customer support personnel.

The software, first launched in February as a beta offering, monitors network devices, operating systems, applications, servers, environment and power supplies for health and availability. New to the Version 1.0 are modules that collect inventory and configuration data, monitor for availability and performance and tackle event management capability. Core 1.0 includes remote management features.

For Jim Stalder, CIO at Mercy Health Services in Baltimore, Zenoss came appeared just the right time. The \$40 million organization has some 800 devices to monitor and had outgrown its WhatsUp Gold implementation, but without a development staff, Stalder says he wasn't sure open source without support was right for Mercy.

"The company's model for support was one reason we felt comfortable going with open source,"

he says. "We were jumping off into an area that was largely unknown, and we didn't have the expertise in-house to help us. But with this, even though it's open source, we weren't ever left hanging in the wind."

He says his organization, which started using the software earlier this year, is in the process of upgrading to Core 1.0 and plans to continue on with the software. With the fast pace at which Mercy rolls out new clinical applications, he says Zenoss' approach to enterprise management is a good fit for his organization.

"We didn't have to make a big upfront investment, and we work weekly sometimes daily with Zenoss on how we need the software to work for us," Stalder says.

Following on the heels of AlterPoint and Zenoss, Qlusters, an open source server-management vendor, is slated this week to make available two plug-ins to its openQRM resource management software.

The plug-ins for Dell Remote Assistant Card and HP Integrated Lights Out enable openQRM users to perform out-of-band management functions on Dell and HP servers, says Will Hurley, CTO of Qlusters. The company plans to add similar plug-ins for products from out-of-band management vendors such as Avocent.

"DRAC and iLO are built into the servers and enable systems administrators to reboot servers with a hard freeze, or repower them remotely," Hurley explains. "With these plug-ins, they can tap into DRAC and iLO on those servers from the OpenQRM platform." ■



EYE ON THE CARRIER
Johna Till Johnson

The three laws of telco economics

- Long-distance is nice, but access is king. As noted in last week's column, one of the great fallacies of telco deregulation was the notion that long-distance was somehow a sustainable market. It's not. If it were, AT&T would have bought SBC, and MCI would have picked up Verizon — not the other way around. That's because access is a scarce — therefore expensive — resource.

Why? Most companies (and consumers) don't want or need multiple pipes coming in the front door — they'd prefer one pipe, with a range of services across it. That preference means local access is a "natural monopoly" — it's naturally going to be less competitive than long-distance. Therefore, he who owns the customer rules the roost, because the access provider controls the scarce commodity (the user) and can choose to build or buy the cheap commodity (infrastructure for long-distance).

This is also why convergence (in the broad sense) ultimately will triumph. Given the choice

of having a range of content and communications services delivered across the same pipe, vs. separate infrastructures for each — users generally prefer the former.

- The devil (and cost) is in the details of customer service. Oddly enough, customers consistently require a few basic things: reliable, innovative service; fair and accurate bills; and fast fixes if the provider fails to deliver on either. In other words, service providers are all about (cough) providing service. There are lots of ways to do this, but broadly speaking, providers need to invest wisely in both R&D and customer service infrastructure. Failure to do so over the long term will result in a lack of competitiveness.

The bottom line: Providers come and go, but the telecommunications rules don't change. Ignore them at your peril.

Johnson is president and chief research officer at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

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A long-term trend I've pointed out over the years is that the definition of a "service provider" has grown and changed, to the point where it can encompass everything from Vonage to Google to your local municipal wireless network or cable company.

But regardless of how providers like to classify themselves, they're all subject to some of the core laws of telecom economics, or "telecomonomics." Herewith:

- In a virtual world, you still need infrastructure. Whether you own it or rely on someone else to supply it, in order to deliver services to your customers, you need reliable infrastructure across which to operate. Your best bet, as a provider, is either to own the facilities yourself, or have a solid win-win relationship in place with an entity that provides it.

That's why Google is building wireless networks (it's using the "own-it-yourself" theory). And it's why in the long term, Vonage is toast: the company offers a service that relies on infrastructure provided by its competitors, to whom it's unwilling to pay fees. That's not a "win-win" relationship — that's exploitation. And it's a bad idea to try exploiting \$50 billion companies (whether cable companies or telcos) who control a resource you require — they tend to notice and retaliate.

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Microsoft



NET INSIDER
Scott Bradner

ChoicePoint: Lipstick on a pig?

believe that ChoicePoint has learned from its experiences and is a model citizen. Maybe.

ChoicePoint was and is in the business of selling people data about you and me. We have no control over the data ChoicePoint gathers or to whom it is sold. ChoicePoint got into trouble for being sloppy about to whom it sold the data, not for selling data. In the past, ChoicePoint basically did not care about to whom it sold data or what data it sold. It sold data to anyone willing to give the company a few dollars and, as detailed in the *Times* article, basically did not bother to check whether the buyer even existed. ChoicePoint simply did not care about our privacy, safety or financial well-being. To this company, we were just collections of facts, some of which were accurate.

The *Times* article says Choice-

Point now is performing checks to confirm its customers' legitimacy before selling them data it might have collected about us. That is good news. The article also says ChoicePoint has stopped providing some types of information, such as Social Security numbers, to some types of customers, such as private investigators and small enterprises. The *Times* article says ChoicePoint lost some customers over this change of policy but went ahead anyway. This policy change also is good news, but not nearly good enough. Why indeed should ChoicePoint sell anyone my Social Security number?

I can understand why ChoicePoint wants to have my number, even if I do not want it to — it can be an all-too useful identifier for me and data about me. I also can

understand why ChoicePoint would want to let people enter my number to get information about me, but I do not understand why ChoicePoint should provide my number to someone who does not already have it.

The basic problem is not ChoicePoint, however. The problem is a business' ability to monetize anything, no matter how private. Europe's attitude is different. Article 7 (www.nwdocfinder.com/6124) of the European Union directive on data protection puts individuals in charge of most of their personal information; for example, data cannot be collected without an individual's consent. It is hard to imagine that sort of law going into effect here — the data barons have far too much clout in Washington

(www.nwdocfinder.com/6125).

ChoicePoint does seem to have turned itself around and is becoming an exemplary data baron. Some other companies are not doing as well — the customers that ChoicePoint turned away were welcomed by some of its competitors. So ChoicePoint may be a shining example, but in a sewer, that does not mean much.

Disclaimer: I'm sure some folk over in the Harvard Biology Department understand the details of life in a sewer, but the university has not, as far as I know, expressed an opinion on this particular sewer.

Bradner is Harvard University's Technology Security Officer. He can be reached at sob@sobco.com.

ChoicePoint's data breach early last year was the first major such incident we actually heard about (www.nwdocfinder.com/6123). That we heard about it was thanks to a then little-known 2003 California law requiring companies that suffer data breaches to tell the people whose data has been compromised and warn them they might be in danger. ChoicePoint had been sloppy with our data, and the sloppiness bit the company and us.

Now a recent multipage *New York Times* article would have us

Cisco bolsters outdoor wireless mesh line

BY JOHN COX

Cisco last week extended its outdoor wireless mesh product line with a low-end access point.

The new model is part of a push by Cisco to offer service providers and municipalities a complete, integrated bundle of products, from access points to core switches and associated network security and management, for outdoor networks based on the IEEE 802.11 standard.

The new Aironet 1505 access point is a compact, sealed box with a single 802.11b/g radio. Designed for fast, simple mounting on structures such as light poles or towers, the 1505 is intended for linking wireless clients to the mesh in outlying or less populated areas, and uses the same radio to pass the traffic to a neighboring mesh node.

It complements the existing Aironet 1510 two-radio model, which includes a dedicated 802.11a radio for carrying packets between the mesh nodes.

Both access points link with Cisco wireless LAN controllers for centralized administration of services such as mobile guest access, voice and security. The controllers can administer a combination indoor-outdoor wireless network of Cisco access points.

Since introducing the two-radio 1510 a year ago, Cisco has been aggressively marketing its products to the exploding municipal wireless market. Though late to that market compared with much smaller rivals such as BelAir, Firetide and Tropos, Cisco's product bundle and brand have created some notable wins, including a project to blanket 1,500 square miles of the Silicon Valley. Other recent wins include a flock of smaller municipalities such as Santa Rosa, Calif., Greensboro and Winston-Salem, N.C., and Upper Merion Township, Pa.

To simplify those deployments, Cisco has integrated and tested its various network components, says Joel Vincent, senior manager for outdoor wireless marketing, with Cisco's Mobility Solutions group. The idea is to create a kind of menu of interchangeable parts that can be upgraded to create wireless networks, and the associated infrastructure for them, that can cover wide areas, dense user populations or both.

The 1505 mesh access point costs \$3,000. ■

Start-up offers managed security services

BY ELLEN MESSMER

Start-up KSR debuted last week with a portfolio of managed security services focused on remediation and risk management for corporate networks.

At the helm is CEO and co-founder Mark Iwanowski, who is a former CIO at Oracle. "We're offering remotely managed services for servers, applications and databases to address problems not being addressed in the marketplace today," says Iwanowski, who co-founded KSR in January with Becky Bace, chief strategy officer, and Bill Yeack, COO.

Rather than tackle management of firewalls and intrusion-detection systems — a well-established practice among managed-security service providers — KSR is taking on a wide range of tasks to ensure the uptime and performance of applications managed remotely.

"At Oracle, where I was formerly CIO, I had to worry about viruses attacking my network or databases not working," Iwanowski says. Some organizations aren't in the position to outsource security, but for the ones that are, "We are going to take a proactive approach to ensure things are working properly."

KSR, which is short for the company's slogan "knowledge, security and risk management," will handle installation and remote management of

authentication, identity management and endpoint security. It will offer specialized services, including patch management and database repairs, as well as data-leak prevention using equipment from vendors

such as Tablus that can be leased by customers rather than purchased outright.

To enable remote monitoring of corporate IT resources, KSR installs its Centris management services software on host computers. Centris provides a dashboard view of systems and devices under management and is based on software KSR gained in its acquisition of SiteLite.

"With it, we're uniting the network layer and the application layer, and aiming toward regulatory compliance," Iwanowski says. "It will allow us to take actions, such

as observing whether a new security patch needs to be applied, or fix a database if it's not performing correctly, or respond to a virus problem."

Iwanowski says some security problems will require KSR staff, which number about 100, to interact with corporate IT departments on-site.

Along with its corporate launch, KSR announced its acquisition of Neohapsis for an undisclosed price. The Chicago-based consultancy operates a research and test lab and provides training in secure Web development and security-code evaluation. Neohapsis will retain its name and function. ■

Profile: KSR

Location:	San Mateo, Calif.
Founded:	January 2006
Business:	Managed security services targeted at areas that include patch management and other remediation issues, and compliance reporting, based on software tool for correlating data from corporate computer resources.
Founders:	Mark Iwanowski, CEO; Becky Bace, chief strategy officer; Bill Yeack, COO
Employees:	100
Funding:	Undisclosed amount from Trident
Fun fact:	Iwanowski previously was Oracle's CIO.

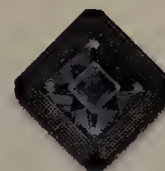


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IT SERVICES AND SOFTWARE ENTERPRISE NETWORKING AND COMPUTING SEMICONDUCTORS IMAGING AND DISPLAYS

SANS group points spotlight at security

BY ELLEN MESSMER

Gullible people have become a major menace to corporate data security, according to the annual SANS Institute report about the worst threats facing business IT departments.

"For the first time this year we're citing the human factor," says Rohit Dhamankar, editor of the SANS "Top 20 Attack Targets" and senior manager of security research at 3Com's TippingPoint division. "It might be a secretary out front that gets spear-phished with mail that looks like it comes from the CIO or the security office but it doesn't. It's an attack to get sensitive information."

SANS, which provides security training and certification in addition to researching threats, spotted growth in targeted attacks, citing spear-phishing in particular, in which e-mail-based scams are perpetrated against organizations or individuals (see sidebar).

In past years the report focused

solely on assaults against technology that could lead to data breaches or network degradation. This year's report was released last week and highlights were presented to Britain's security agency, the National Infrastructure Security Coordination Centre in London.

Zero-day vulnerabilities — known flaws in software that do not have patches available — were also among the most dismal trends of 2006, the report says.

SANS said 45 "serious and critical vulnerabilities were discovered in Microsoft Office products alone," and among them nine were zero-day vulnerabilities in which an exploit or worm was actively making use of the flaw and no patch was available, the SANS report notes.

The number of reported attacks against Microsoft Office tripled between 2005 and 2006, according to SANS.

The SANS report claims that many zero-day attacks that target

SANS advice: Spear-phish your employees

The SANS Institute has some controversial advice for computer security professionals looking to lock down their networks: Spear-phish your employees.

That's what the U.S. Military Academy at West Point did in 2004 to a group of 512 cadets, picked at random for a test called the Carronade. The cadets were sent a bogus e-mail that looked like it came from a fictional colonel named Robert Melville, who claimed to be with the academy's Office of the Commandant (The real Robert Melville helped invent a short-range naval cannon called the Carronade nearly 250 years ago).

"There was a problem with your last grade report," Melville wrote, before telling the cadets to click on a Web page and "follow the instructions to make sure your information is correct."

More than 80% of the cadets clicked on the link, according to a report on the experiment.

Worse still, even after hours of computer security instruction, 90% of freshmen cadets still clicked on the link.

Spear-phishing attacks contain this kind of targeted information in order to seem more credible, but their goal is the same as a regular phish: Trick the user into doing something he shouldn't, such as giving up sensitive information.

Because these attacks rely on cooperation from their victims, it's hard to prevent them, said Alan Paller, director of research with SANS. "The only defense against spear-phishing is to run experiments on your employees and embarrass them," he says.

— Robert McMillan, IDG News Service

Microsoft products are initiated in China.

"There are various theories about why China is such a hotbed for zero-day attacks, but most likely it is the fact that much of Microsoft's source code is available there with little intellectual property rights restriction on distribution, the culture supports reverse engineering of proprietary code and research into exploiting code vulnerabilities, and there are few enforcement investigations into the crews launching the attacks against targets in other countries," the SANS report states.

The focus of most zero-day attacks remains Microsoft products, particularly Internet Explorer, but it's not just Microsoft products at stake, Dhamankar says.

Other threats SANS highlights for 2006 include VoIP attacks, including the type to "make money by reselling minutes and potentially injecting misleading messages and even creating massive outages in the old phone network."

"The VoIP servers are interfacing with the traditional networks," Dhamankar points out. Attackers can get to circuit-switched networks via VoIP servers that could have vulnerabilities.

"By compromising a VoIP server, an attacker now has the ability to inject bad messages in the phone network," Dhamankar says, adding that the most disastrous consequence can be bringing down the old phone network. ■

Top threats

The SANS Institute unveiled its Top 20 Attack Targets last week. Here are the results:

Operating systems

1. Internet Explorer
2. Windows libraries
3. Microsoft Office
4. Windows services
5. Windows configuration weaknesses
6. Mac OS X
7. UNIX configuration weaknesses

Cross-platform applications

8. Web applications
9. Database software
10. P2P file-sharing applications
11. Instant messaging
12. Media players
13. DNS servers
14. Backup software
15. Security, enterprise and directory management servers' network devices
16. VoIP servers and phones
17. Network and other devices' common configuration weaknesses

Security policy and personnel

18. Excessive user rights and unauthorized devices
19. Users (phishing/spear-phishing)

Special section

20. Zero-day vulnerabilities

Fujitsu launches 10G stackable switch

BY PHIL HOCHMUTH

Fujitsu last week introduced a stackable 10G Ethernet switch, targeted at connecting clustered servers for supercomputer and grid computing applications.

The XG2000 is a single-rack-unit switch with 20 10G Ethernet ports and a 400Gbps switching fabric capacity, enabling all ports — which can be fiber or copper — to run at full-duplex speed simultaneously, the company says. Some of the tasks Fujitsu has in mind for the switch are

aggregating other 10G Ethernet switch links or connecting directly to 10G-capable servers.

High-performance computing features targeted at large data centers include a low switch latency, as fast as 300 nanoseconds for the switch to process an Ethernet frame. The switch also supports jumbo frames, or



Fujitsu's XG2000 switch supports as many as 20 10G Ethernet ports and starts at \$18,000.

Ethernet frames larger than the standard 1.5KB; the XG2000 can handle frame sizes as great as 15KB, which helps the switch move large amounts of data quickly without overworking its processors, the company says. Large 3MB stream buffers also help the switch handle bandwidth-intensive traffic flows, such as multimedia streams.

The device can be fitted with as many as 20 XFP (10G small-form-factor pluggable) optical ports, supporting long-reach single-mode (as much as 25 kilometers), or shorter-reach multimode fiber-optic cabling (300 meters in range). Sixteen XFP ports for copper-based CX4 10G also can be supported, for short data-center links of as far as 10 meters. (Four fiber XFPs also can operate with the 16 copper-based 10G ports in this configuration).

The Fujitsu's XG2000 switch will compete with fixed-configuration 10G switches, such as Force10 Networks' S2410, HP's ProCurve 6400 series and Foundry Networks' FastIron Edge X424F.

The XG2000 is available for \$18,000, excluding the price of SR, LR and CX4 XFP ports. ■

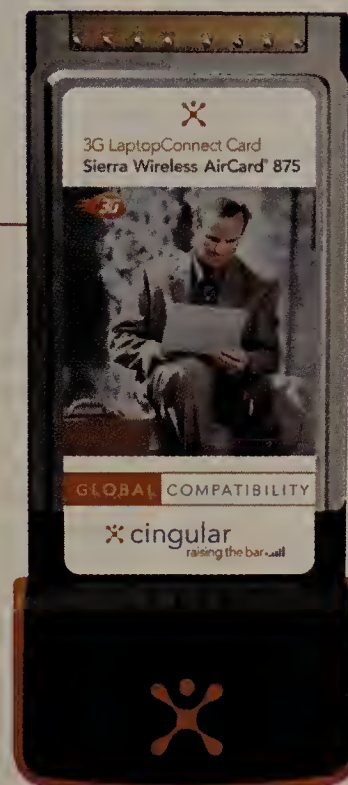


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Gold's Gym

continued from page 1

Dallas. He said the lessons include using a phased implementation process; establishing clear service-level agreements (SLA), including penalties; and conducting a thorough technology assessment to identify potential problems.

When the rollout began in June, it was scheduled to take eight weeks. As of mid-November, the data portion of the rollout is complete, but only about 20% of the voice lines have been ported to the VoIP network. Badugu remains bullish on VoIP, expects benefits including a 35% to 40% savings in voice and data service costs, and already is saving \$6,000 to \$10,000 on his conference calling. But if he had it to do over, he'd do more than a few things differently.

Requirements

Gold's Gym started in 1965 with a single facility in Venice, Calif. Through a series of licensing deals, mergers and acquisitions, the company grew to 660 gyms in 26 countries. Of the 550 U.S. Gold's gyms, most are franchises; about 50 are corporate-owned. Badugu is responsible for providing network services to those corporate-owned gyms, which are located in California, Hawaii, Maryland, Missouri, Texas and the Washington, D.C., area.

Network services are particularly crucial to the gyms, because they rely on a central server for everything from member data to the retail point-of-sale system.

Badugu targeted satellite when he embarked on the upgrade project in February 2006, but he quickly learned that it wouldn't provide enough bandwidth. He also wasn't impressed with the available frame relay offerings, which he considered older and less flexible technology, and didn't feel comfortable with a DSL service from a different provider.

Then Badugu recalled a Qwest MPLS project from his consulting days, so he called in Qwest to inquire about VPN service.

"That's where we started," he said. "From there the proposal evolved to address a lot of our phone needs. That's when the VoIP solution was proposed."

Once voice was on the table, Badugu brought AT&T and Sprint into the discussion to see what they had to offer. But their proposals were too voice-centric and



Lessons learned about rolling out VoIP

- Use a phased implementation process.
- Outline detailed steps with assigned areas of responsibility.
- Establish clear service-level agreements with external vendors; include penalties.
- Don't underestimate the complexity of phone conversions.
- Conduct a technology assessment to identify gaps.

didn't have a strong strategy for combining voice and data, so Qwest won the day.

The big driver for upgrading the voice network was reducing costs for local, long-distance and conference calling. "As we add gyms and continue to grow our business, those costs became astronomical," Badugu said.

At the same time, with its lean IT staff, the company struggled to manage the lines and make sure each was properly used. "We didn't have the staff to monitor it every month and make sure we're doing the right thing for the company," he said. He also didn't have the staff or the desire to build his own VoIP network.

The plan was to install a T-1 line to each gym and implement voice and data service when the circuits were installed. Badugu figured scheduling the T-1s from various local exchange carriers (LEC) would be the most complicated issue.

"That was pretty simple. They gave us a date and when it occurred, they were out there and put the T-1 in place," he said. From there, Qwest subcontractors complicated matters.

At each gym, one contractor would order, configure and install a router. Another configured and installed the firewall and hooked up the VPN tunnel. "As we did each location, we found more and more complexities in that process," Badugu said. "We had six

or seven parties involved in putting the phone and data lines in. I really felt like some were pretty much learning the technology or learning the equipment."

Badugu also admitted to shortcomings on the company's part. "One of the things we didn't do correctly was, we didn't know our environment," he said. That included the types of phone systems installed in each location and whether they could connect to the T-1 line. Even though he had been installing digital, IP-ready phone systems in all gyms, some didn't have the required T-1 card, which meant an additional expense, and others were still analog. Locating all the wiring closets was another challenge.

For these reasons, Badugu decided to focus on bringing up the data side first, then add voice later. As a result, the original eight-week implementation window passed and the company didn't have all its T-1s installed.

Voice challenges

The decision to delay the voice implementation proved prescient, as that side of the equation presented numerous challenges. Chief among them was porting existing phone numbers to the Qwest VoIP service.

Gold's Gym gave Qwest all its working telephone numbers and billing numbers to begin the porting process from various incumbent LECs (ILEC). "Of the first five numbers we submitted, four failed," he said, because the billing telephone numbers that Gold's Gym had were different from those the ILEC had.

"The whole porting process became a real nightmare," Badugu said. In some instances, he tried to forward calls from the old phone system to the new one. But that often was confusing for callers who heard the phone ring once, then heard a short delay before it rang again. If two calls came in at the same time, the second would reach a busy signal.

Now he is porting the main number for each gym, then assigning new numbers for each extension, which typically aren't called directly. Badugu has a schedule from his ILECs for when each number is supposed to be ported, then he coordinates with phone technicians to ensure the new system is up and running properly. He is hoping to have all the numbers ported by yearend.

Despite the challenging implementation, Badugu began realizing a savings of 20% on long-distance once he got the T-1s installed and switched all long-distance service to Qwest. Additionally, conference calls now are carried over the Qwest network, obviating the need for a third-party provider and saving at least \$6,000 per month. As each gym is brought onto the VoIP net, he gets closer to his projected savings of 25% to 30% on local calling costs.

If he had to do it over, however, he would take a more phased approach. "We tried the big-bang theory, doing everything at once," he said. That decision was driven by business needs, because the DSL network was so unreliable, and because Qwest was urging Gold's to sign a contract that included every gym. "Even still, I think we should've done two or three gyms first, and made sure that was OK before we did the rest."

He also advised mapping out details about the steps required to install any new technology and who is responsible for each step, along with contacts and escalation procedures, should things go awry. "So if something fails, you have somewhere to go to keep the process moving."

Another must is technology assessment to identify items like phone systems that were analog or lacked T-1 cards. "A site survey would've been good, with a detailed analysis of the phone systems, the phone numbers, how the hunt groups work, how the phone systems are configured, the number of workstations," Badugu said. "For each location, if we had that upfront, it would've made life easier for everybody involved."

Desmond is events editor for Network World and president of PDEdit, an IT publishing company in Southborough, Mass. He can be reached at paul@pdedit.com.

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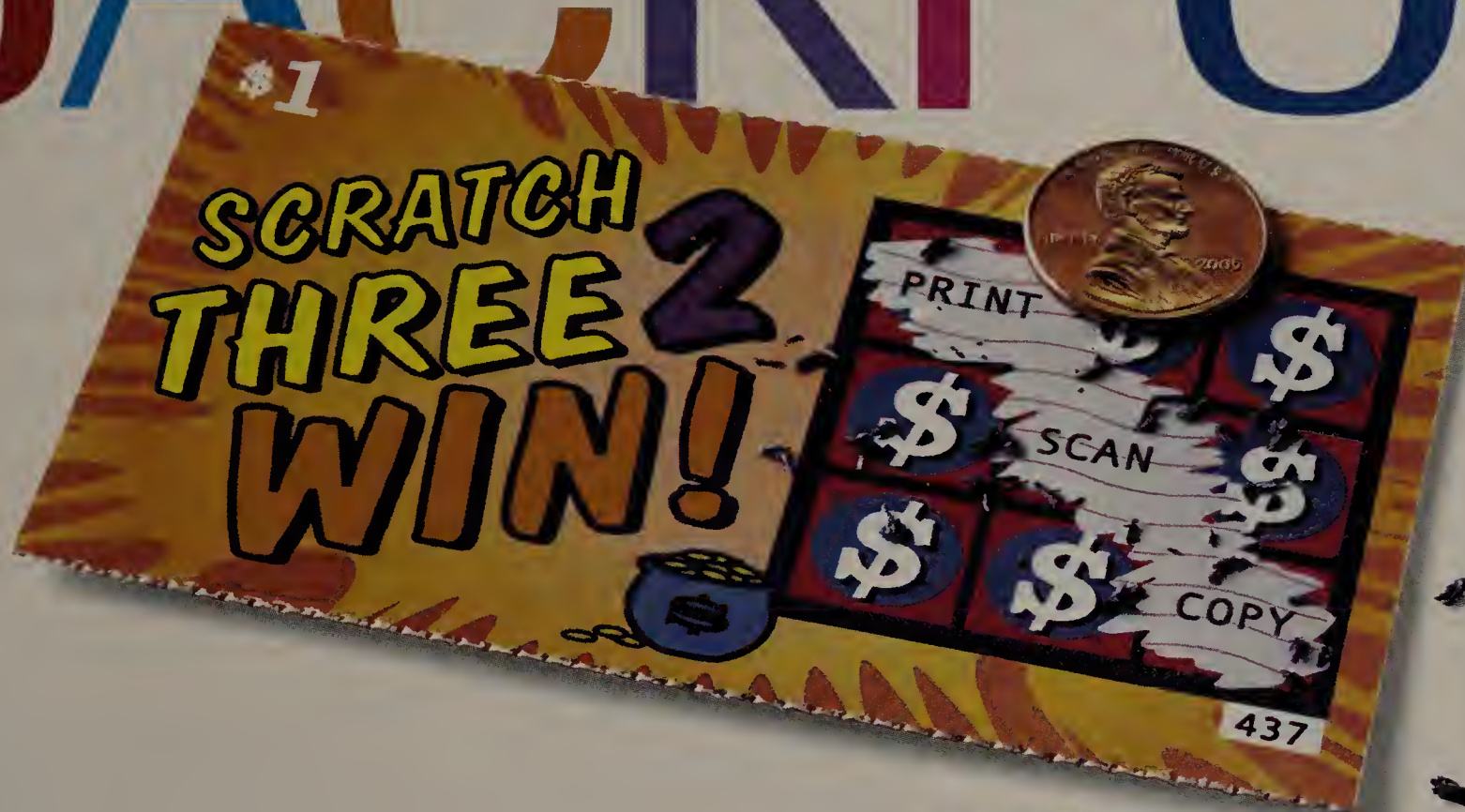
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Internet pioneer Merit looks ahead

Former leader of Michigan research network reflects on organization's accomplishments.



Merit Network, the pioneering Michigan state research network that played a key role in the development of the Internet, celebrated its 40th anniversary last week.

President Emeritus Eric

Aupperle, a 32-year Merit veteran who served as director and president during the organization's heyday in the mid-'80s and '90s as the operator of the National Science Foundation's NSFnet, spent some time reminiscing and looking ahead with Network World Managing Editor Jim Duffy.

Can you highlight Merit's key accomplishments over the past 40 years?

There are an awful lot.... One of the very first would be to allow the student and faculty and staff of [Michigan's] three major universities to share and access and use the computing resources of all three, and build a network to do that. Merit's task was to build that network. In those days, it was not possible to go out and buy off-the-shelf router technology, as one can do today. So one of the first things we had to do was develop technology — essentially routers, although at that time we called them communications computers. We built three of them — one to be attached to each of the three mainframe systems and interconnected by phone lines. The design and development of that was certainly historic in terms of an accomplishment. The only other organization that did something similar in a comparable time frame was [the Advanced Research Projects Agency] with ARPANet and [Interface Message

Processor] technology.

In the mid-1970s we added the ability to dial in directly to our network. In the early 1980s we modified our software so we could also carry the then-DARPA protocols, the TCP/IP protocols. I think we were the only network that not only ran our own protocols but also the DARPA protocols.

Then probably the next major thing was when Merit teamed up with IBM and MCI in 1987 to bid on the NSFnet activity. We successfully won that bid and had a T-1 network up and running by mid-1988. We upgraded that to T-3 and then closed it down in 1995. Gopher had been developed and the Web had been developed, but the spawning of the dramatic growth of the commercial Internet followed right on the heels of the NSFnet activity.

I've often commented to people that the National Science Foundation invested something on the order of \$50 million in the networking activities associated with the NSFnet. Fifty million dollars — when you consider the expenditures of the federal government — the relative payoff is just incredible. A great return on investment.

What are the most interesting projects that Merit has underway right now?

After the NSF activity, Merit reverted back to its original role of providing services within the state of Michigan. I think one of the ongoing activities [that's] an outgrowth of the NSFnet area is Merit's involvement with [the North American Network Operators' Group]. Merit is the sponsor and organizer for those activities, and I think that remains a very valuable contribution.

From a state of Michigan point of view, Merit is by far the largest ISP, providing network connectivity to

almost all of the higher-education community in the state. So it has a very major role in providing the network infrastructure to the educational component in Michigan, including access to Internet2. It also provides connectivity to many other organizations — elements of the state government and some municipal and county governments, plus libraries.

How has Merit set the standard for other state research networks?

One of the things that has been unique about Merit is we started in the late 1960s and it's still in existence. Very few other state networks have evolved in quite that way and Merit has also been much more innovative in use of technology and operation.

Do you see the role of state research networks changing over the next 10, 15 or 20 years?

There was quite a change following the NSFnet era — the number of the state or regional networks that were formed or in existence have evolved to rather different entities. Some have decided to go commercial, some have gone out of existence and new ones formed. So I think that trend will continue to happen. It's hard to say in 10 or 20 or more years what will really happen to Merit. But I believe, at least for the next few years, Merit will continue pretty much on the same path that it currently has.

What do you think are the key challenges facing the Internet industry?

Certainly some of the concerns with respect to security. Malicious use of the network, the amount of spam traffic, phishing and other related problems.... I don't see any easy solutions to those issues and I think that will be an ongoing challenge for folks to deal with. ■

Alcatel eyes more large enterprise wins

Analysts say Alcatel has the portfolio to compete with Cisco and Nortel — if the company can raise its profile.

BY PHIL HOCHMUTH

Alcatel's large voice and data win at the University of Pittsburgh Medical Center could be a sign of more U.S. enterprise-market momentum, depending on how the French vendor's merger with Lucent plays out.

Lucent and Alcatel shareholders approved the proposed \$13.4 billion merger in September, but the deal faces scrutiny from the U.S. House Armed Services Committee because the merger of Lucent (which has strong U.S. defense ties) with Alcatel is a concern to some officials.

Amid all the news and controversy that has been kicked up around Alcatel this year, the fact has been obscured that the company has some strong enterprise LAN, WAN and security products, industry

observers say.

"The products in Alcatel's enterprise division are actually pretty good," says Steven Schuchart, an analyst with Current Analysis. "But their ability to penetrate the North American market has been somewhat limited."

Brand recognition has been Alcatel's downfall in North America, Schuchart says. "A lot of times, it's not a rejection of Alcatel's approach, strategy or products," he says. "It's that Alcatel is not even invited to the party," when enterprise network buyers look to compare products on paper, or in a lab.

Its anticipated Lucent merger aside, Alcatel as a whole has been on a roll in its key markets over the last year, nearly doubling its IP-routing product revenues in its third fiscal quarter (which ended Oct. 24)

compared to the same time in 2005. Alcatel also has become a legitimate threat to Cisco in certain router markets, such as carrier edge aggregation, recently surpassing Juniper to take second place.

In enterprise switching, however, Alcatel has seen some modest success. Its \$41.1 million in second-quarter 2006 LAN switch revenue increased 16% from the previous year, although it accounted for only about 1.1% of the \$3.8 billion in marketwide revenue during the quarter.

An enterprise-focused push with the Lucent brand as an entree for U.S. IT customers potentially could give the company's enterprise data business a boost.

"The Lucent name is much more well-known in North America and resonates with enterprises," Schuchart says. For enter-

prise customers who regard vendor viability and stability highly,

Alcatel — a \$16.6 billion company (in terms of market capitalization) — might not be a bad bet, Schuchart says. "When you compare them to smaller network vendors, such as 3Com, Foundry or Extreme, you can't doubt Alcatel's cash fortitude," he says. ■

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Alcatel tops Cisco in deal

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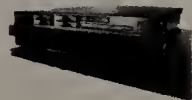
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Business made simple

The great afterthought: Your broadband router

We all know the saying about the weakest link and recognize its inherent truth. In the great chain of technology that is our broadband service, we seldom think of our state-of-the-art routers as being that link, but perhaps we should.

Recently I wrote about the mystery of how one can never seem to get, say, 3Mbps out a 3Mbps broadband circuit. One reader responded with a tale describing his extensive efforts to coax more than 860Kbps out of his broadband. With no router — just a direct-connect single-station connection — he got 1.5Mbps. Ultimately, he wrote, it was the “molasses factor” in the router innards that caused the dramatic degradation of throughput.

When you walk through your local Circuit City in search of the perfect broadband router, I doubt the expectation of sub-megabit-per-second throughput would even cross your mind. After all, broadband routers have been sporting 100Mbps (Fast Ethernet) interfaces for years now, and even Gigabit interfaces are increasingly common. It is a long way down from a billion bits per second to less than a million bits per second. So what gives?

To a large extent, the problem might be the disposable, pack-of-chewing-gum approach that some vendors take toward building and supporting the boxes. Many vendors have so many products you can't imagine them spending much time on any given one. You probably spend more time on your Christmas card list than some vendors spend on bringing a broadband router to market.

Pick a site, Linksys, for example, and click over to the support downloads menu. There you will see a hundred or more products and versions listed. One product I picked at random showed about 45 “fixed problem” comments and only five “added support” comments in the two-year life of the driver. The impression, at least, is one of quantity rather than quality: Throw it out there, fix the biggest problems and get the next box out.

With our reader (who wasn't working with a Linksys product), it took the next box to resolve his problem and allow a blistering 1.5Mbps of throughput. He clearly spent much more — in terms of his own time — than the box cost. Does the vendor care? The reader wonders, as I do in similar situations, how nontechnical persons would deal with the issue. They couldn't.

Keep in mind how many broadband routers come into being. It almost is akin to working with a Lego set — or maybe order-

ing up a McDonald's Happy Meal for your kid. You can order up, say, Broadcom-based hardware and Jungo's OpenRG development platform, and you've pretty much got yourself a router faster than you can order up a root beer.

Not to say that vendors routinely slap things together or that there is any inherent problem with the aforementioned components, but we've all seen how less than optimal code can result from the level of prebuilt code used and vendors' desire to keep build costs as low as possible.

What to do? When you get a router, test it out. When you find a good one, keep it. That shiny new one you are thinking of buying could be a step backward.

Tolly is president of The Tolly Group, a strategic consulting and independent testing company in Boca Raton, Fla. He can be reached at ktolly@tolly.com.



TOLLY ON TECHNOLOGY
Kevin Tolly

IBM's ISS announces SiteProtector

BY ELLEN MESSMER

IBM's Internet Security Systems division is making its security-management console software available in an appliance form for the first time.

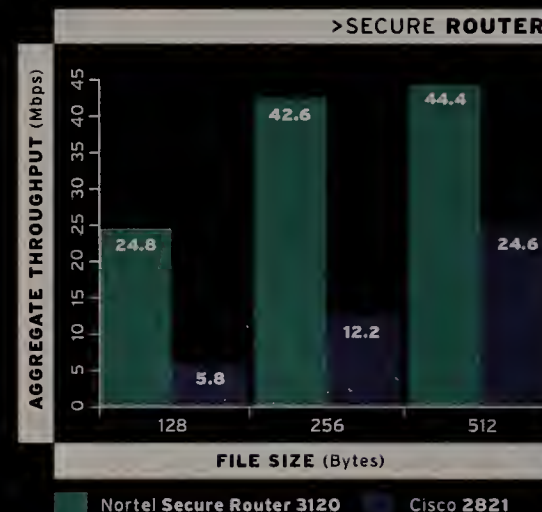
The SiteProtector box is a dual-processor server with mirrored SCSI hard drives pre-configured with licensed software, including SQL Server 2005. Expected to be available by the end of the month, the appliance will cost \$23,500, roughly twice as much as SiteProtector in software-only form.

“It's so much easier to set up and get it configured,” says Jim Burris, network manager at Kenco Group, a Chattanooga, Tenn., transportation logistics firm, which last week switched from the software-based SiteProtector to the hardware appliance. “It takes four to six hours to get the SiteProtector software up and going, but I had the appliance set up in 30 minutes.”

Kenco uses SiteProtector to manage a number of the ISS network and desktop intrusion-prevention and security products to protect its network.

IBM earlier this year announced it would buy ISS for \$1.2 billion, an acquisition it formally completed last month. ■

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Source: The Tolly Group, October 2005



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Management

continued from page 1

not managing projects well enough throughout their life cycle, KPMG says. Nearly half of the respondents experienced at least one project failure in the past 12 months, and 86% reported losses of as much as 25% of the targeted benefits across their project portfolio.

Savvy IT shops are battling these odds with project and portfolio management software that helps keep track of schedules, skills availability, budgets and milestones. Suites typically include such features as project pipeline analysis, resource management,

With project management software, "we've been able to plan better and forecast more effectively because we have a view of where everybody is and what projects are coming in," says Brian Abeyta, second vice president in the IT project management office at Aflac. The Columbus, Ga., insurer has been using Primavera's software for almost five years.

As a longtime user, Aflac reaps the benefits of having its past project experiences chronicled in a central platform. "Many of our projects are similar in nature, so we're able to go back and look at a project and identify areas that we can improve upon — a development section or a planning piece of a

Aflac has taken on increasingly more IT initiatives, that perspective is critical, he says.

Project management software provides a consistent framework, industry-standard tool sets and what-if analysis capabilities, says Arun DeSouza, CISO at Inergy Automotive Systems in Troy, Mich. "For complex projects, which have many reusable components, it can be an invaluable tool for planning accurately."

Specialized tools can help project managers think through the activities required and can expose critical details and dependencies that may have gone unnoticed, adds Chris Holbert, COO and CIO at LaunchPad Communications in Los Angeles.

"Almost always, schedules need to be adjusted, and without a tool to help understand the full implications of adjusting one component, it is very difficult to determine the impact to the project," says Martin Webb, manager of data network operations in the Ministry of Labour and Citizens' Services in Canada's British Columbia province.

Inergy, LaunchPad and the Ministry of Labour and Citizens' Services all use Microsoft tools. The Canadian agency uses Microsoft Project, a project portfolio management tool in the Microsoft Office suite.

LaunchPad, too, uses Microsoft Project for IT projects that involve multiple teams or departments, or that consume more than 40 full-



"If you've got a poor . . . process to begin with, you're simply automating that defective process."

James Kritcher, vice president of IT, White Electronic Designs

document and contract management, planning and estimation capabilities, and workflow support and modeling. IT-focused wares are available from project management specialists, such as Business Engine, Planview and Primavera Systems; platform vendors, such as CA, Compuware, IBM and Microsoft; and ERP vendors, such as Lawson Software, Oracle and SAP.

project, for example," Abeyta says. "We look at projects historically for improvement opportunities."

Another key benefit is being able to provide senior executives with a consolidated view of ongoing projects. "We've come a long way in being able to provide dashboard reports to management," Abeyta says. In the past, senior executives had only a disparate view of projects underway. As

Project assistance

There is a wide range of IT project- and portfolio-management wares designed to help IT executives who want a clearer picture of how in-progress projects are proceeding.

Key components:

Time-management tools for managing project and assignment deadlines; resource-management capabilities for tracking staff availability and use; cost-management elements for tracking expenditures and handling chargebacks and billing; requirements-planning capabilities; collaboration and workflow features; project-status dashboards and reporting tools.

Sample vendors:

Artemis International, Business Engine, CA, Compuware, eProject, HP/Mercury Interactive, IBM, Lawson Software, Microsoft, Oracle, Planview, Primavera Systems, SAP, Sciforma

Pricing:

Hosted options start at about \$50 per user, per month. Desktop products range from about \$300 to \$5,000 per seat. High-end deployments at large enterprises typically top \$100,000 in price and can surpass \$1 million.

time employee hours, Holbert says. Inergy uses Microsoft Project with SharePoint Portal Server for moderate-to-complex projects. For low-effort, low-budget projects, Microsoft Excel is sufficient, DeSouza says. "Using Microsoft Project would take too much extra time."

Determining which projects should be managed via specialized tools is part of the art of project management.

Like Inergy, medical device provider Exactech uses project management software for some but not all of its IT efforts. The company uses Microsoft Project for complicated ERP projects, for example, but not for network administration. For such tasks as upgrading Cisco router software, it doesn't make sense "because you would spend more time planning it than actually doing it," says Craig Bush, network administrator at Exactech in Gainesville, Fla.

Packaged tools are best suited for larger projects that require a well-defined framework — but can be overkill for small and mid-size projects, and create an obstacle to IT agility, says James Kritcher, vice president of IT at White Electronic Designs.

The Phoenix company — another Microsoft Project user — has done a lot of work to improve its project management processes over the last two years, creating standards that specify various degrees of project oversight and governance, depending on project cost, complexity, risk and duration, Kritcher says.

One unexpected payoff is streamlined regulatory compli-

ance. Having project governance tools in place makes the external audit process go much smoother for such initiatives as Sarbanes-Oxley compliance. Using a common platform for executing IT projects can be a bonus come audit season. "Project management software can provide a process framework to assure that projects are evaluated, planned, executed and reviewed in a consistent manner," Kritcher says.

Having a project management suite in place doesn't guarantee project success. The old adage, "garbage in, garbage out," applies, users warn.

"If you've got a poor project management process to begin with, you're simply automating that defective process. You've also got to guard against introducing too much process overhead which can lead to staff dissatisfaction and a loss of agility in producing results," Kritcher says.

It's hard knowing what level of detail to include in a project plan. "Too much detail and managing the project can be more effort than the project itself. Too little and critical aspects may be missed," he says. ■

Egenera tucks Xen into platform

BY JENNIFER MEARS

Egenera is partnering with XenSource to tuck the open source Xen hypervisor into the management software it uses to group its blade servers into a pool of compute resources in which application workloads are shifted according to business demands.

By adding Xen into the mix, Egenera's Processing Area Network (PAN) Manager software can be used to provision and allocate not only physical servers but also virtual machines within Egenera's BladeFrame system. BladeFrame includes diskless processing blades, control blades, switches and interconnects, all managed with the PAN Manager software.

Egenera's new software, called vBlade, integrates XenSource's XenEnterprise package into PAN Manager. XenEnterprise supports Linux- and Windows-based virtual machines running atop the Xen hypervisor, enabling users to provision virtual machines and then migrate them among physical servers as needed.

With vBlade, Egenera customers will be able to migrate workloads across both physical servers and

virtual machines within one BladeFrame or among multiple BladeFrame systems, says Susan Davis, vice president of marketing at Egenera.

"VBlade allows customers to take advantage of all the benefits that virtual machines or hypervisors provide in terms of greater server utilization and greater efficiency, but without adding any complexity — without having to add yet another set of management tools to provision and manage," Davis says. "Out-of-the-box high availability, disaster recovery and all of the capabilities that we've been providing in our product for five years is now extended to a virtual environment."

VBlade does not support VMware or Windows Virtual Server now, but Davis says Egenera could add support for those depending on customer demand.

Egenera competes with other virtualization management vendors such as HP, IBM and Sun.

A preview release of vBlade is available. It is scheduled to be available in the first half of next year and will be priced as a separate add-on to the BladeFrame system. ■

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BC's use of Microsoft Project

Read more about how British Columbia's Martin Webb is using Microsoft Project to track IT interdependencies and project milestones.

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TECHNOLOGY UPDATE

■ AN INSIDE LOOK AT TECHNOLOGIES AND STANDARDS

CDP: Great for corruption, not DR

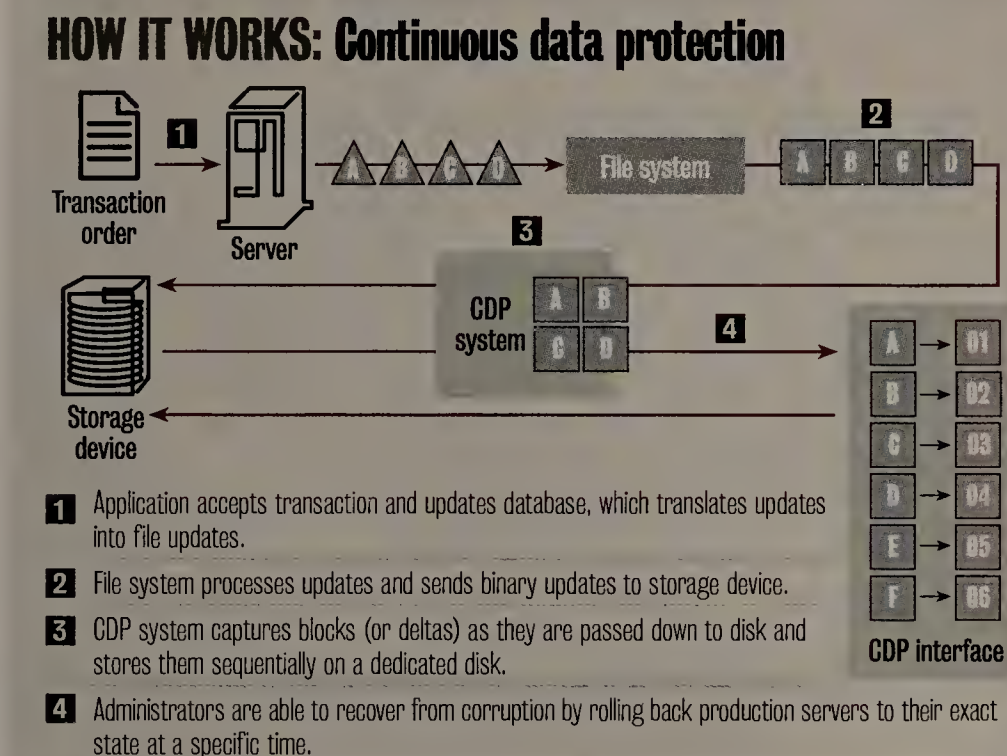
BY GEOFF NESNOW

While there are various ways to implement continuous data protection, most experts agree that the defining characteristic of CDP is the ability to roll back a system, database or set of files to any time within the retention window. Generally, the detail that can be achieved with CDP depends on the frequency of file-system transactions, which can occur many times per second.

CDP has gained widespread support helping enterprises recover from data corruption. Historically, corruption recovery relied on slow processes with much less "time granularity" to recover, for example, from a tape backup or periodic database dumps. CDP provides much faster recovery and much greater restore detail. However, it does not generally help companies with disaster recovery, and this is an important distinction.

CDP systems typically have agent software that resides on the storage platform and/or server being protected and a dedicated application component on a separate machine. The agent is responsible for capturing and transmitting every file-system transaction (that is, every modification to files on the system) to the dedicated CDP application system. The CDP system then records each transaction and the precise sequence and timing of the transaction.

Most CDP systems keep a rolling log of the transactions on the systems they are protecting and do not maintain a complete copy of the data being protected. CDP systems typically offer a configurable time window for rollback, usually



measured in hours or days. When transactions age beyond this window, they are discarded. Because CDP stores the transactions, not the complete file system, CDP is useful only for recovering from corruption, not for recovering from system or hardware failure.

Because CDP systems are capturing transactions below the level of the file system in an indiscriminate fashion, little system overhead is added. It is similar to having a local disk mirror, which is a mature and efficient process.

At the time of corruption, an adminis-

trator is able to look through a transaction history and pick a rollback time. Some technologies let the administrator roll the production system back to that time or spin off a virtual instance of the system as it existed at the rollback point and mount that version. By doing this, the administrator can assess whether the corruption issue is resolved before presenting that version to the production environment. Then, the administrator can accept that version and replace the production version or try again for a different time.

Because CDP tracks file-system changes, restoration or rollback is exceptionally fast, a matter of reversing disk transactions. It isn't limited by file-system bottlenecks — such as file creations or deletions. This high performance makes CDP especially useful and appropriate for very large and critical databases. CDP systems usually take advantage of high-performance storage systems, such as storage-area networks.

CDP offers other attractive features. For example, it lets database administrators mount historic versions of production databases from any time within the history window of the production servers parallel to the production systems, with little production impact. This lets administrators do testing, run reports or perform forensics. Also, CDP can be used much like snapshots to perform backups or copy large files, such as databases, at an exact time without having to stop the database.

CDP has its limitations. It is generally not cost effective outside large businesses, and it doesn't address system or disaster-recovery requirements. In most cases, it is an entirely complementary solution — it doesn't offset any existing costs.

However, for companies with large, critical databases, CDP is an excellent complement to existing data-protection solutions, helping companies increase the availability of their most critical applications.

Nesnow drives growth strategies for Iron Mountain's Data Protection businesses. He was chief technology evangelist at LiveVault before Iron Mountain acquired it. He can be reached at Geoffrey.nesnow@ironmountain.com.

Ask Dr. Internet

By Steve Blass

We have a RAID partition that will not mount on our Mac OS X server after the last system restart. Disk Utility says the volume has invalid links and needs to be repaired, but the built-in system tools cannot fix it. What data-recovery tools can we use to recover the files on the partition?

The first thing I would recommend trying is Alsoft's DiskWarrior (www.alfsoft.com), which often can re-

cover damaged files, folders and volumes completely. DiskWarrior works by recreating a copy of the damaged directory information to repair the damaged volume in place. Unfortunately, DiskWarrior does not work with Mac OS X case-sensitive, journaled RAID volumes. I don't use case-sensitive file systems on Macs anymore unless it is absolutely required. To recover the data from a damaged case-sensitive Mac OS, try Prosoft Engineering's Data Rescue II (www.prosofteng.com). Data Rescue also can recover

lost files, folders and volumes from other types of Mac file systems. Data Rescue reads the damaged volume and lets you select what you want to recover using a file browser window. Data Rescue then copies the files from the damaged volume to free space on a separate disk. DiskWarrior and Data Rescue are reasonably priced and well worth the investment.

Blass is an IT manager in Phoenix and can be reached at dr.internet@jschnee.com.



GEARHEAD INSIDE THE NETWORK MACHINE

Mark Gibbs

Disk drives: We're driven to drink

Disk storage is notoriously fickle. One minute your drive is humming happily, and the next it's screaming like a banshee and trying to turn into a lathe — or simply dies. Whatever the issue, at that point the unprepared probably will start swearing, invoking the gods of hardware, sacrificing chickens and, eventually, drinking heavily. We did.

A few weeks ago we were testing some software on our Apple G5 and we were running out of disk space. It was urgent we get the project wrapped up.

We remembered that we'd been sent a really cool storage subsystem that was still in its box, and we suddenly felt guilty, because the product was one of those review projects we'd planned to tackle — over a year ago.

We figured this was a good time to try the device, a Kano SureVault800-360 (www.nwdocfinder.com/6127). The SureVault is a 360GB RAID 5 storage system (priced at \$1,139) that supports Firewire 800, Firewire 400 and USB 2.0. The device works with Windows and Macintosh PCs (it is formatted by default for Macintosh).

Because the SureVault supported RAID 5 it was just what we were after; the data we needed to move off the Mac was our photo collection, which, you will remember from previous Backspin columns, is rather large (it's now up to around 16,500 images totaling around 20GB).

RAID 5, we're sure you remember, is where data is striped across several drives at block level, with parity also being copied across the drives. In the case of a single drive failing, the complete data set can be rebuilt without data loss. Because most of our photos are irreplaceable we figured this was an excellent solution. What could go wrong?

We unpacked the SureVault, gave the manual the cursory once-over, plugged in the power, connected it to the G5 via

High-reliability storage subsystems can be less safe than you'd expect.

the Firewire 800 port, switched it on and, lo and behold, the SureVault worked! Amazing. The SureVault over Firewire 800 is really fast, but the fans are a little noisy.

We moved the photos off the G5's internal drive onto the SureVault, and everything was fine — until a few days later.

The Firewire cable connected to the SureVault was pressed against the wall, and suddenly the SureVault didn't work. The pressure of the cable against the wall had stressed the connectors on the subsystem's input/output board and the Firewire connector popped off (the latest SureVault units are engineered to prevent this problem).

We tried the other ports but the subsystem wouldn't mount at all. When we ran OS X's Disk Utility it could only tell us that the volume header was invalid and couldn't be repaired. In fact, the Disk Utility error message is useless

and is as unhelpful and opaque as only a *nix utility can be. Apple should be ashamed.

We got in touch with Kano — which has outstanding technical support — and it sent a new chassis. After transferring the drives, we fired the subsystem up and — nothing. Still an invalid volume. The probable cause was that as the connector popped off the board, it generated a spurious write and, blat, we got a corrupted disk.

Kano suggested we try Alsoft's DiskWarrior utility (www.nwdocfinder.com/6128; also see "Ask Dr. Internet," page 33), which is priced at \$80.

To run DiskWarrior you have to boot your Mac from the Alsoft disk. Once the program loads you can see all attached drives, graph their fragmentation, and recover and rebuild directories. DiskWarrior also can install a disk monitor that loads at start-up and monitors all Advanced Technology Attachment drives that have Smart support and notify you when critical conditions occur, such as high temperature or too many errors. We let DiskWarrior do its magic and in about five minutes we were back in action.

So, even high-reliability storage subsystems can be less safe than you'd expect. You shouldn't expect the operating system tools to help and you'd better have the right third-party tools on hand if you plan to recover.

The Kano SureVault is a little pricey but it's fast and extremely reliable. DiskWarrior, for the pain it can save you, is cheap and absolutely vital to your happiness.

Commiserate at gearhead@gibbs.com or on [Gibbsblog](http://Gibbsblog.com).



CoolTools

Quick takes on high-tech toys. Keith Shaw

Five lessons for holiday tech shopping

Around the technology media universe, it's time for holiday gift guides, and *Network World* is no exception (see page 40 for our list of favorite products). Just as retailers put out holiday displays before Halloween, holiday gift guides keep coming out earlier.

After reviewing more than 100 products for this year's guide, I've spotted some trends for the 2006 holiday season. Take a gander at five lessons learned:

Lesson No. 1: 2006 = iPod speaker system.

We were flooded with a variety of speaker systems that let you connect an iPod directly so you can blast your playlists to everyone else in the room. Last year's list favored systems that let you network the devices, but apparently that was too hard for people, so this year, individual, portable speaker systems really will shine. Two of my favorites? The very portable Nyko Speaker Dock 2, and the slightly larger Logitech AudioStation.

The Logitech AudioStation iPod speaker system.

While Microsoft's Zune digital music player (launched last week) may have an impact on Apple's iPod dominance in the future, at the moment it's all about the iPod, as witnessed by the barrage of speaker systems.

Lesson No. 2: For GPS, it's still about the maps. Several portable GPS devices were submitted for the gift guide, and while they continue to add nice feature — full maps on Secure Digital cards, digital cameras and the ability to play music — a lot of the systems still are hindered by poor maps. The old phrase "garbage in,

garbage out" applies to many of these devices. On one device, I was told constantly that my home (built in 1987) could not be found. That's laziness on the part of the map creators, and GPS device manufacturers should demand more from their mapping providers.

My suggestion: Ditch the GPS device and download the VZ Navigator application on the Verizon Wireless network, or try TeleNav's service on Cingular, Sprint and other networks, and run them off your smart phone (Treo, BlackBerry or even certain cell phones). In our testing, these applications worked as well as, if not better than some of the stand-alone devices.

Lesson No. 3: Computers are boring. I've argued before that computers have become commodity items, and there's nothing really that exciting about any new features on notebooks or desktop systems. We tried several systems this year, and apart from some high-end notebooks (the Alienware Area-51, Toshiba Qosmio AV-650 and Fujitsu LifeBook Q2010 come to mind), I had a hard time staying awake during the testing. Intel Core 2 Duo? Yawn. Why do you think Microsoft is so intent on hyping the Xbox 360 and the Zune player? Is anyone really that excited about Vista? Computers are the new microwaves and toasters.

Lesson No. 4: Digital photo frames are getting better. When these devices first appeared, frame makers were obsessed about putting a network connection on them so users could add or delete photos over a network. Those devices are gone, and this year's frames have media card support, larger hard drives and better LCD technology that makes the photos look outstanding when displayed. I was really impressed with frames by Pandigital.

Lesson No. 5: Old school rules. My absolutely favorite device from this year's guide is the TEAC GF-350, a record player that lets you take old vinyl albums and record them onto a CD-R disc. If you or someone you know has a box of old record albums, you'll make their holiday by getting them this device, which unlocks all that music for the digital era — you probably could even pick up a Zune on Christmas Eve for them to put the songs on.

Shaw can be reached at kshaw@nww.com.

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—David Foster, Communication Systems Group Leader, CERN

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SPECIAL FOCUS

APPLICATION MANAGEMENT

The art of managing an SOA

BY ANN BEDNARZ

Managing application services quality is becoming a critical IT discipline as companies increase their deployments of service-oriented architectures.

"It's an ongoing battle, because you have to continue to maintain the connection between the business requirements and what the software actually does, and those requirements always change — that's the whole idea," says Jason Bloomberg, a senior analyst at research firm ZapThink.

Indeed, the idea behind SOA is to build an infrastructure that lets compositions of loosely coupled software services exchange data or coordinate a business function, for example. Companies are becoming sold on the model, industry analysts say. By 2010, at least 65% of large organizations will have more than 35% of their application portfolios SOA-based, up from fewer than 5% of organizations in 2005, predicts research firm Gartner.

As SOAs catch on, companies are finding testing isn't the only IT area that could require a makeover. Designing, deploying and managing services-based applications is a different animal from working with traditional multitier applications. To deal with the changes, management pros are augmenting their tool sets with software that gives a clearer view inside transaction-level details, for example, and network executives are considering appliances that can help tackle XML-processing loads.

There are plenty of vendors to help, including those with SOA testing and validation tools, policy management and enforcement software, and XML processing and security appliances.

Testing the SOA waters

SOA components are difficult to test by conventional means. One reason is that services don't have an associated GUI. In addition, all the possible interrelationships among services and the applications they support can make it difficult for IT staff to devise a testing methodology.

"With a multitier application, you knew who your users were, and you scaled it to the number of users. With a service designed for lots of different departments within an organization, performance needs

Enhancing SOA performance

Keeping an SOA running smoothly can require a range of products for making sure services development, deployment and maintenance are enterprise-class. Here are some options.

Testing products	Management tools	XML appliances
Typical functions: Provide test scripts for verifying the quality of services; validate service functions and performance; simulate unavailable services; diagnose development-related problems. Example products: AmberPoint's SOA Validation System, Compuware's DevPartner, HP's Mercury Interactive TestDirector, iTKO's LISA, Mindreef's SOAPscope, Parasoft's SOAtest suite.	Typical functions: Monitor service performance and availability; enforce security and usage policies; report business-level metrics; alert and respond to events and exceptions. Example products: AmberPoint's SOA Management System, CA's Unicenter Web Services Distributed Management, HP's SOA Manager, IBM's Tivoli Composite Application Manager for SOA, SOA Software's Service Manager, Progress Software's Actional SOAPstation and webMethods' Servicenet.	Typical functions: Offload XML processing, validation and transformation; provide application and service integration; control access and manage service interactions; provide traffic shaping capabilities; enforce security and usage policies. Example products: Forum Systems' Vantage XML accelerator, IBM's WebSphere DataPower SOA appliances; Layer 7 Technologies' SecureSpan XML Networking Gateway, Reactivity's XML Security Gateway.

to be thought about early on," says Frank Grossman, president and chief technical officer at Mindreef.

Mindreef and competitors such as iTKO espouse a collaborative approach to testing that lets different IT staff weigh in throughout a development project.

Once in production, services-based applications require management tools that can perform application-layer message inspection and trigger automated policy rules based on headers, payloads and other message attributes. IT managers are investing in tools from specialists such as AmberPoint, as well as familiar management players, such as CA and HP, to track service performance and availability in more detail, as well as enforce security and use policies and report business-level metrics.

With a packaged application, it's not difficult to find out what's going on using standard management interfaces, says Martin Milani, CTO at Tidal Software, which last week launched a new version of its Interperse software for monitoring and managing SOA applications. "You can get a pretty good picture of the application by looking at certain APIs or error logs, or perhaps monitoring a database."

With an SOA application, it's not so simple. "Even in a simple scenario, [such as] using a J2EE [Java 2 Platform Enterprise Edition] run-time, a Web service is connected to servlets, and there are hundreds of different moving parts, such as EJBs [Enterprise JavaBeans], and potentially a message bus behind the scenes. There are just way too

many points of failure," Milani says.

SOA management tools can trace transactions across application tiers to determine why a component's performance is degrading — if there's a problem with the database connection to the persistence layer that an application is using, for example.

Another key feature of SOA management products is dependency planning. SOAs introduce complex operational dependencies — such as application and network configuration details that need to be addressed — as well as business-oriented criteria such as service-level agreements and usage policies that need to be managed.

Vendors with a focus on dependency management, including Progress Software with its Actional portfolio, can help users create and keep track of changes to service policies that could affect in-production applications.

"It's important to do dependency planning, but it's complex, because you don't know ahead of time what compositions you're going to have," Bloomberg says.

It's a challenge that becomes even greater as companies deploy services outside the firewall, adds David Butler, SOA evangelist at HP's Mercury Interactive. "As you expose your system externally, the need to monitor at all levels of the system becomes exponentially greater."

Variety of players

Getting it right requires bringing together players from quality assurance, opera-

tions and IT architecture disciplines, Butler says. "Solving the collaboration issue is a big gauntlet in getting good performance in an SOA application, because it's going to require all of these groups to be able to link together to understand the full system view of performance," he says.

Indeed, services-based applications depend on multiple processing steps to occur as loosely coupled components are strung together. As use scales, the volume of message-based communication grows, and if IT staff haven't prepared for the processing overhead, performance suffers.

"It's one thing to have a few services that have a few hundred users, but what if you have tens of thousands of users, or services that

exchange very large messages, or services that exchange very large numbers of messages?" Bloomberg says. "All of these are potential bottleneck areas that could run things out of memory or cause network slowdowns, for example."

To keep systems from buckling under the processing load, more companies are considering deploying dedicated appliances that take over such chores as XML transformation, routing and security. By 2009, 40% of the 2,000 largest global organizations will use XML appliances as part of their SOA network implementations, Gartner predicts.

That's the tactic RouteOne is taking. RouteOne is a joint venture formed by the financing divisions of DaimlerChrysler, Ford, GMAC and Toyota to streamline the loan-application process for the car dealers and their customers. The company's new architecture depends on XI50 integration appliances from IBM subsidiary DataPower to mediate between proprietary dealer systems and third-party banking systems.

The XI50s handle all the standard SOA chores such as transformations, mapping and making Web service calls — while maintaining tremendous transaction rates, says T.N. Subramaniam, director of technology and chief architect at RouteOne in Farmington Hills, Mich. "We are really enthusiastic about putting all this on the network and shifting the focus from an application perspective to more of a configuration and operations management perspective. I think there are some very big gains to be made there," Subramaniam says. ■

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On Technology
John Dix

Tech is getting easier, CIOs say

Technology is getting easier and as a result, CIOs are looking for a broader range of skills when they hire. That was one nugget that came out of a CIO panel discussion at a private function hosted by *Network World* publisher IDG in Toronto last week.

Helen Polatajko, CIO of CIBC Mellon, a joint venture between CIBC, Canada's fifth-largest bank, and financial-services giant Mellon Financial, said tech knowledge still matters but "fit with the team is more important." She has 120 people in her group and recently hired a dedicated human resources person.

Loren Hicks, CIO of Lavalife, a \$100 million provider of technology-based meeting services for singles, agreed that tech is easier to learn now and said he puts a priority on passion when he hires for his team of 70. "I look for passion about something — it doesn't have to be about IT — figuring that passion will translate to work."

Tech advances also are making it easier to deal with upper-echelon business managers, the CIOs said, because prevalence has led to a better understanding of technology and a somewhat better handle on what is feasible.

"In the old days the joke was, you'd put a PC on the president's desk and he wouldn't know how to turn it on," Hicks said. It's better now, but business management still needs to take more responsibility for harnessing the power of technology. "It's not all tech's fault. Nine women can't make a baby in a month. It's the business side's responsibility, too."

The more business managers learn, the less time is wasted nay saying requests, the CIOs agreed.

"We have to teach them," said Ted Maulucci, CIO of Tridel, a leading builder of condominiums in the greater Toronto area. He requires folks in his group to attend writing courses and some sales training to help in this regard.

At the same time, however, the CIOs agreed that technology management requires more business knowledge than ever. "Everyone has to be very business-savvy," Polatajko said. "You can no longer just be a technologist."

She runs the IT group as a business within CIBC Mellon and has direct input at the highest levels of the company, reporting to the CEO, along with six peers.

One of the topics the conversation turned to was outsourcing, and the group was generally enthusiastic. Maulucci said he had outsourced Exchange and Web support successfully. But Polatajko noted that managing outsourcing relationships isn't easy. "It is something like a marriage," she said. "You have to work at it. I agree that it is the way to go, but [service-level agreements] are never as tight as you thought."

— John Dix
Editor in chief
jdix@nww.com

Opinions

Murky forecast

Regarding "Gartner: IT will waste \$100 billion on network overspending" (www.nwdocfinder.com/6051): I agree that savings can be made through the reduction of unneeded features in much of IT, but I have to disagree on the where and how.

As an IT administrator for several years with several companies, I have seen the problem from both sides: too much spending where it is not needed and not enough where it is needed. I've seen companies run expensive T-1 lines where a broadband-level connection would be just as good, and companies struggling to use an extensive VoIP system over consumer-level broadband and not understanding why the connection is so horrible. A CEO doesn't have to contend with user complaints of slow systems on a daily basis but does have to worry about the cost of doing business. Part of the issue lies in management's misconceptions about technology — most don't understand it, so they leave it to the techs, because they don't want to be bothered with the issues, or they get hooked on buzzwords and gadgets they see in magazines and want to use.

The other issue has to do with the way companies — private and public, as well as government — set up budgets. Most medium to large companies set up budgets so that if you are frugal with your money and have excess at the end of the year, they reduce what will be available to you the next year. This is especially true of companies that receive federal funds. This means that excess equipment and resources are purchased at the end of the year, whether or not they are needed, to use up the budget and make sure those funds will be available next year.

Lack of understanding of technology also can reflect lack of qualified IT staff and trained user base. IT staff unfamiliar with certain technologies

may not even be aware there is a different, cheaper way to accomplish the same goal. The saying goes, "When all you have is a hammer, everything looks like a nail." Companies not willing to hire and/or pay good-quality IT staff or afraid to let poor ones go will suffer from lack of good support and planning of systems. A network administrator may insist on expensive network devices because that is what he has trained on and has a personal preference for while a competing product with similar specs at half the price will do.

A common misconception among users is that technology should be a push-button solution that will do their work for them. If this were the case, companies wouldn't need workers. Technology is intended to make what you do more efficient allowing you to do more in the same amount of time and even then not always. Sometimes it simply lets you be more organized and accurate with information. Upgrading your workforce before your infrastructure can be quite a cost savings. It is possible for one very competent, computer-literate and better-paid user to replace two or three noncomputer-literate users. You'd have to pay the one user more for his skills, but you'd be saving the cost of two staffers.

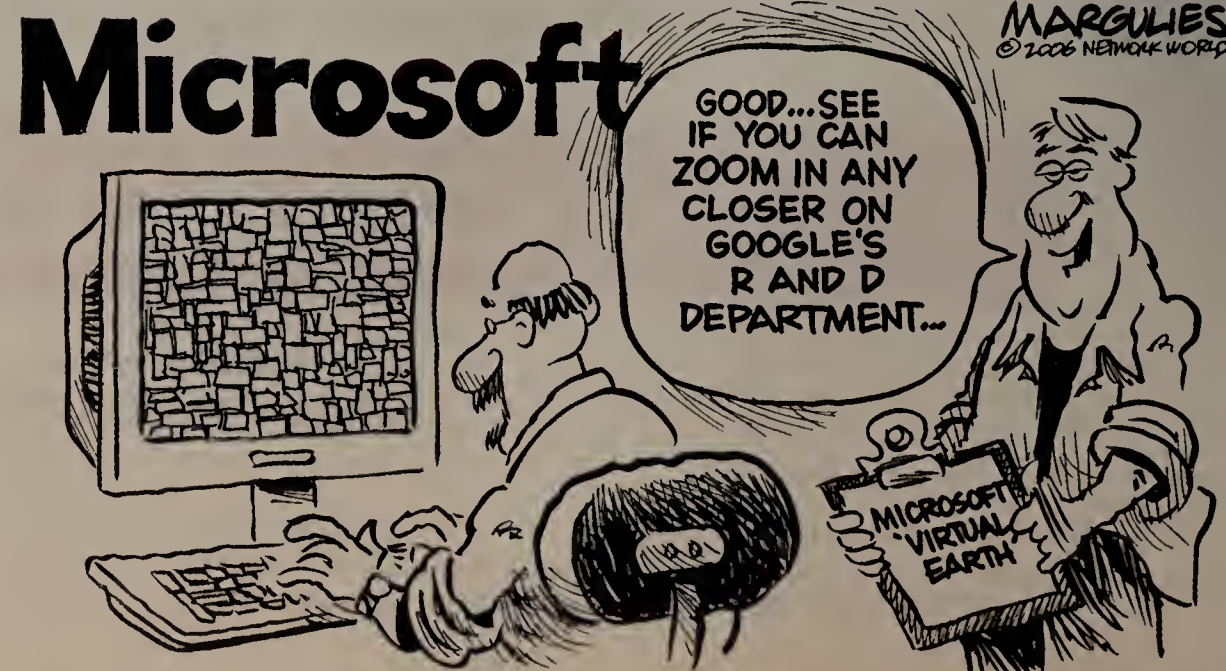
Scott Kelley
Las Vegas

Gartner is a "futurist" organization. They are always talking about the future and what their predictions are. Just once, I would like to see a list of their predictions over the past 10 years and how close to reality they came.

Ed Armitage
Sacramento, Calif.

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, *Network World*, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

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THROUGH CHANNELS
Ken Presti

We don't need no stinkin' badges — or do we?

Much of relationship building in today's business world involves understanding where people and organizations fit in: who they are, what they're good at, what they're likely to cost and a host of similar things. We do this through a variety of clues, both subtle and not so subtle.

For example, if you recognize the "stinkin' badges" reference in the headline, I can get a sense of how old you are and maybe even assume that, back in the old days watching "Blazing Saddles" was more fun to you than, say, hanging out with the chess club kids.

Differentiating themselves as one type has been a challenge for resellers, integrators and others who sell you technology and make it work. Initially, it was simple. Resellers pushed boxes. Value-added resellers built something additional into their value propositions. Integrators mostly functioned at the high end of the market and could do virtually anything, based on the variety of task-based teams on their payrolls.

Over time, technology vendors have introduced a vast array of authorizations, certifications, specializations and other designations. All of these "ations" are essentially badges that fall

into two broad categories. Some pertain to the individual's sales training or technical aptitude. Others pertain to the channel partner itself, and usually things such as sales volume, specific areas of training, advanced training, numbers of specific types of staff members, service capabilities, demonstration facilities and basically anything else human creativity might conjure up.

Unfortunately, many vendors do a spotty job of

It is helpful to understand which channel partners are best aligned with your own technology vision.

explaining to customers what these badges are intended to be, how the partners earn them, and what sorts of vendor access and other benefits they get when they meet that higher level. This is important information for customers because the badges offer clues to what the partner sees as its primary business and how that business will evolve to meet industry change. As technologies become more complex and more integrated, it is helpful to understand which channel partners are

best aligned with your own technology vision. Furthermore, badges provide vendors with a somewhat objective means of determining the best fit between the sales lead and the chosen partner, because they demonstrate investment and commitment — and, usually, competence.

One word of caution, however: Keep in mind that past performance and good rapport trumps all badges, unless you are moving into an area clearly beyond the skill set of the incumbent partner. Even then, the incumbent might make useful recommendations on how best to proceed. Badges become especially important when selecting a new partner, either because your business is new, you're dissatisfied with the old partner, or you're moving into a geographical or technology area beyond the incumbent partner's reach.

Take a look at the Web sites of your key vendors and see whether they do an adequate job of describing their badges. If not, perhaps they need to hear how important the information really is.

Presti is president of Presti Research & Consulting, which specializes in go-to-market solutions for technology companies. He can be reached at ken@prestiresearch.com.



YANKEE INGENUITY
Howard Anderson

Qualcomm: Contrarians at the gate

What is the dominant wireless company today? Nokia? Motorola? Ericsson? No — it's Qualcomm. Irwin Jacobs, Qualcomm's founder, once told me that when he started the company, he thought it would be a small consulting firm working on interesting problems for the communications industry. Today, Qualcomm has 9,300 employees and sales of more than \$7 billion.

To understand Qualcomm's success, forget about studying corporate structure. Study evolutionary biology instead, because that's what Qualcomm exemplifies — and its new strain looks harder than its impressive first strain.

Who do you think the boys at Intel worry about when they aren't making themselves sick over AMD? Trust me, it's Qualcomm, which is one of the 20 largest semiconductor companies — and semiconductors aren't even its real business.

Remember Code Division Multiple Access (CDMA), the standard Qualcomm pushed to the wireless carriers 10 years ago? Back when the wireless carriers were struggling with 2G, Qualcomm understood that the world would soon need 3G and CDMA could handle more conversations in limited bandwidth than anything else. The cool thing about Qualcomm is the businesses it gets out of — it sold its base station business to Ericsson and its cell phone business to Kyocera. Why get caught in the murk of dreary manufacturing when your real business is packaged brain power, building platforms for everyone else?

Think of Qualcomm as kind of a wireless Bell

Labs — but with the commercial instincts of Bill Gates. Qualcomm gets a license fee from all the wireless industry because of CDMA. This license fee is the engine that funds everything else Qualcomm does. This gets competitors angry — it's bad enough when a company outengineers you, but when they've developed a better economic model as well, that's downright unfair.

Qualcomm's new president is Paul Jacobs, Irwin's son. He doesn't accept the conventional wisdom that cellular phones are doomed to a second-class existence behind wired phones in

Qualcomm . . . has the best vision of what the cell phone will become.

terms of performance. He wants to make your cell phone capable of not only receiving and sending live television signals, but he also sees your cell phone as a first-aid kit, one that reads your basic biometric data. He sees you using electronic money that's stored on your cell phone. In other words, Paul Jacobs wants to free your cell phone and let it operate as a computer terminal — and a movie camera, television, wallet and BlackBerry. But he understands that some battles need to be fought, others need to be finessed. So he is accommodating, up to a point, about Wi-Fi, about the carriers' desire to lower fees, and about which battles he'll fight now and which he'll fight later.

Early on in the communications industry, inno-

vation came from Bell Labs, which operated as a brain trust for the entire industry. With deregulation, carriers learned to use innovation from its non-Western Electric/AT&T vendors, such as Rockwell Collins and Raytheon. MCI, Sprint and the competitive local exchange carriers never had an R&D facility, because they didn't need one — they used the R&D from their suppliers, such as Alcatel, Nortel and NEC. But these equipment companies ran out of gas, and so did their customers. Nextel was hobbled by Motorola's inability to cram more phone conversations onto the spectrum Nextel owned. Now Qualcomm is fixing that problem for them.

Brilliance in the telecom industry is the ability to go off in a different direction than the pack because you are convinced of the efficacy of your proposition — such as CDMA. This takes the guts of a riverboat gambler and the sales moxie of an evangelist. Qualcomm has done all of these things and more. The company has the best vision of what the cell phone will become and the bankroll to back its play with hard R&D.

Qualcomm is a company that few consumers know but everyone in the industry fears, admires and hates, which has managed to win by outengineering, outselling and outthinking the rest. And that's just Act One. Act Two is about to begin.

Anderson is the William Porter Distinguished Lecturer at MIT, founder of the Yankee Group and co-founder of Battery Ventures. He can be reached at handerson@yankeetek.com.

Cool
Yule
Tools

Ultimate holiday

Wish list

We give you a
head start on
your Santa list.

> **Alienware Area-51 notebook:** Santa's a hip dude, so we're not surprised he's using the latest Alienware notebook with the latest bells and whistles for his high-performance list recording needs. Plus, when he's done listening to tech editors ramble about what they want for Christmas, he can relax and play some high-end games with the system. Starts at \$999.

BY KEITH SHAW
PHOTOS BY CHRISTOPHER NAVIN

> **Sony Vaio UX Micro PC — VGN-UX180P:** They say PCs keep getting smaller, but this is ridiculous. Full Windows XP functionality, three wireless modes and a slide-out keyboard, all packed in a device that fits in the palm of your hand. Starts at \$1,800.



Dear Santa...

I've been very, very, very good this year, so please let me help all the nice IT network pros who read Network World by giving them all of the items on my Ultimate Wish List. The Cool Yule Tool elves have worked overtime once again this year, testing all of the items in the following pages and providing complete online reviews (www.nwdocfinder.com/6122) to make sure that only the coolest stuff lands under our readers' trees.

If you help me out with this stuff, I promise to be nicer to the PR people who call me every day, and won't do anything too stupid on the Cool Tools Video Show.

Thanks for your help. Give a hug to Mrs. Claus for me.

Your pal,

Keith



^ **Samsung SCH-a990 cell phone:** Very impressive 3.2-megapixel digital camera masquerading as a cell phone. Swivels and changes more than a Transformer. \$250.

^ **Nyko Speaker Dock 2:** Who says great sound has to come from big speakers? This portable iPod dock saves a lot of space on your desktop, recharges your music player and still produces a great sound. \$75.

Primera Technology Bravo SE Disc

Publisher: Robotic arm, direct-to-CD printer and CD/DVD duplicator make this an all-in-one duplication system that can't be beat. If you need to copy multiple CDs or DVDs for marketing or other purposes, this device is an incredible time-saver with outstanding, easy-to-understand software. \$1,500.

Adesso CyberTablet 12000:

Digital tablets aren't just for computer graphics professionals anymore. The Adesso digital tablets let home users edit digital photos or illustrations, and has the features of professional models at about one-third the price. You may never want to go back to a mouse again after using one of these. \$150.

Radian Technologies iBlast FM trans-

mitter for iPod nano: A great combination of FM transmitter, in-car power charger and support tower that lets you blast iPod nano tunes from your device to a car stereo (or other FM radio). Extremely simple setup and the choice of frequencies to transmitter make this device a winner. \$48.

Altec Lansing inMotion IM 500

portable audio system: A superthin, superlight, portable speaker system in which you can dock your iPod nano. Take it on the road, crank up the volume and shake the walls of your hotel room, while charging the device at the same time. It doesn't pretend to be a full-time sound system but is easy to use and extremely portable. \$100.

Logitech MX Revolution cordless laser

mouse: Logitech does it again with its MX Revolution, a nine-button mouse that packs tons of features into a very comfortable and well-designed navigation tool. Search for words or phrases at the click of a button, or use your thumb to switch between applications. The rechargeable base station means never having to worry about finding AA or AAA batteries to replace a dead mouse. \$90.

JBL Radial iPod speakers:

Delivers powerful sound in all frequencies, from crisp, clean highs to thumping base. Charges your iPod, includes video output and comes with a full-navigation remote. The sleek design sets it above other iPod speaker systems. This will add instant class to any room. \$299.

See Cool Yule Tools, page 44

The Highly R

VOLUME 1 – ISSUE 1

 Windows Server® 2003

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LONDON STOCK EXCHANGE CHOOSES WINDOWS OVER LINUX FOR RELIABILITY



Tom Nagy for The Highly Reliable Times

THE HEADQUARTERS BUILDING of the London Stock Exchange, located in London's Paternoster Square.

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Reliability Is Key in the “World’s Capital Market”

By MICHAEL BETTENDORF

LONDON, Oct. 2006 — When an IT system must process 15 million real-time messages per day, with peaks at 2,000 messages per second, even one second of downtime counts. That’s the pressure the London Stock Exchange faced when building Infolect, the Exchange’s real-time stock-ticker information delivery system.

The solution had to have rock-solid reliability, nothing less. “Reliability is one of the key attributes of the Exchange in its technology systems. These systems have to work every day, 24/7, to make sure the markets are there,” said CIO David Lester, who evaluated both Linux and Microsoft® Windows Server® 2003 for the Exchange’s core technology systems. “We looked at a number of different platforms for our Technology Roadmap, and we lined up our business requirements with the capabilities of those platforms, and Windows Server was the clear choice.”

In Lester’s view, long-term reliability is a function of a solid relationship: “We wanted a deep partnership with an organization that could deliver the kind of mission-critical technology that we needed, and we felt Microsoft delivered just that.”

For the full London Stock Exchange case study, plus other case studies and independent research findings on the reliability of Windows Server versus Linux, visit microsoft.com/getthefacts



BREAKING NEWS: London Stock Exchange Achieves Record Reliability

London Stock Exchange CIO David Lester (above) cites Windows Server as key to maintaining system reliability and performance.

LESTER SPEAKS OUT:

“We looked at a number of different platforms for our Technology Roadmap, and we lined up our business requirements with the capabilities of those platforms, and Windows Server was the clear choice.”

—David Lester, CIO, London Stock Exchange

JOURNALISM BEAT: Continued growth for reliability-focused newspapers A world-wide survey tracking trends in newspaper use

RELIABILITY NEWS & NOTES: A study released yesterday found that Windows Server was

Cool Yule Tools

continued from page 41

iRobot Scooba 5900 Floor Washing Robot: Swifter than a Swiffer. More powerful than a wet mop. The people who brought you the Roomba robot vacuum cleaner do it again with the Scooba, which washes floors with ease. If we had to choose between watching the Scooba twirl and spin across the floor or watching "Dancing With the Stars," we'd pick the Scooba every time. \$399.

BlueAnt Wireless Super-Tooth II Bluetooth speaker phone: Australian company BlueAnt Wireless wins our hearts with the world's easiest in-car Bluetooth speaker phone. The best part of this is its magnetic clip that lets you carry the speaker phone from car to car, then easily clip it onto a visor for maximum positioning. The pivoting, noise-canceling microphone, digital sound processor and built-in rechargeable lithium-ion battery also help make this a worthy gift for your favorite road warrior. \$129.

Palm Treo 700p (with Sprint service): The smart phone that vendors have been promising us for years — the combination cell phone and PDA — has finally arrived with the Treo 700p. Not only does it converge the mobile phone with the organizer, but the 700p also merges a classy business tool with personal entertainment. If you're looking for one device that does it all, look no further than the 700p (as long as you are happy with the Sprint or Verizon Wireless network coverage in your location). \$399 (plus service).

LG Chocolate (VX8500) mobile phone (Verizon Wireless): While this might not be classified as a "smart" phone, the LG Chocolate has a bunch of features that make it pretty intelligent, such as a microSD card slot with support for as much as 2GB of file storage, an MP3 music player, GPS capabilities (works with the awesome VZ Navigator driving-direction service), a good, 1.3-megapixel digital camera, Bluetooth and access to the high-speed EV-DO wireless network. The price is the icing on this Chocolate treat. \$149 (plus service).

See Cool Yule Tools, page 46

> Navman iCN 750: Neat GPS device that adds a digital camera twist — take any photo of your location, and the device will mark its coordinates. Download locations of famous landmarks, and this is great for your next vacation. \$440.

< Apricorn Aegis Mini:

1.8-inch portable hard drive with 60GB of capacity in a package smaller than a deck of cards. Carry your entire digital life in your pocket. \$199.

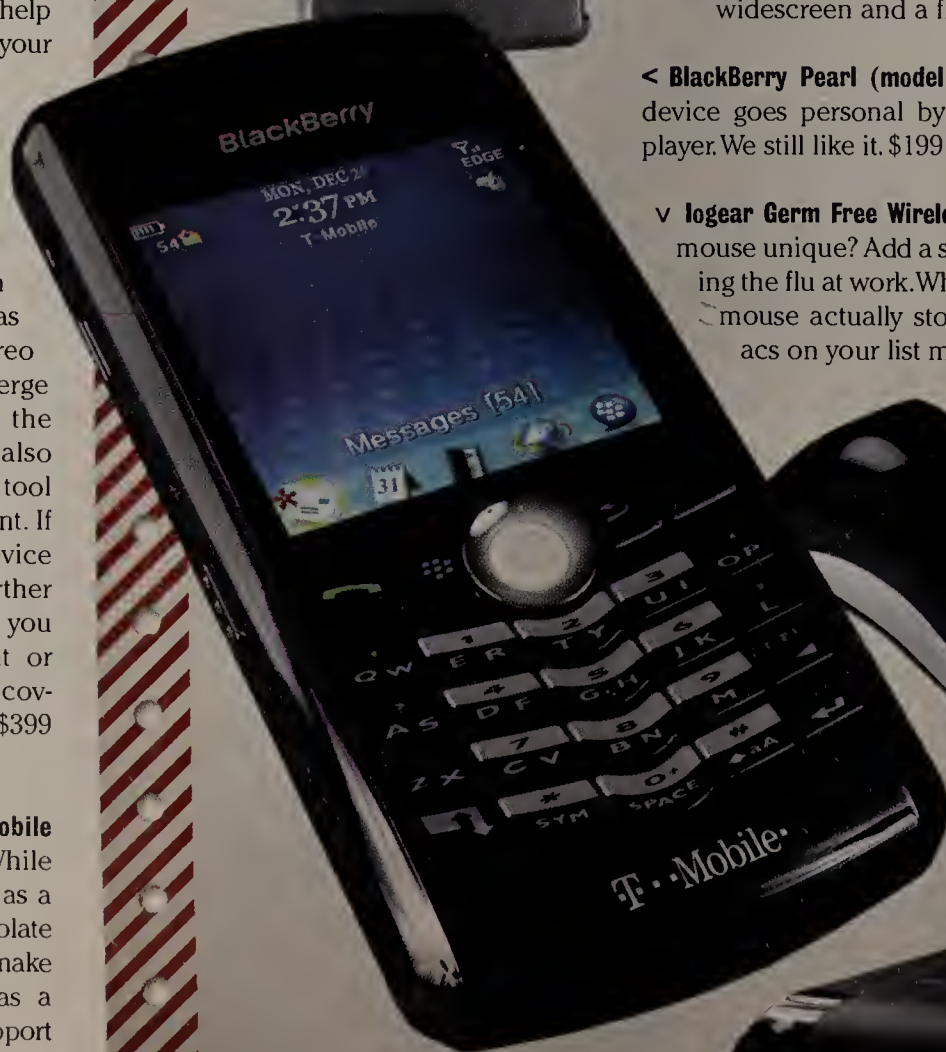
> Samsung SyncMaster 225BW monitor:

What a difference a year makes — this monitor blew away our recent favorite monitor in terms of extra space (22 inches instead of 20) and better quality and a clearer picture. Forget about asking for just a flat-screen monitor; this year you need a widescreen and a flat-panel monitor. \$379.

< BlackBerry Pearl (model 8100): The business wireless e-mail device goes personal by adding a digital camera and music player. We still like it. \$199 (with T-Mobile service).

v logear Germ Free Wireless Laser Mouse: How do you make a mouse unique? Add a surface that helps keep you from catching the flu at work. While we can't prove whether the mouse actually stops germs, the hypochondriacs on your list may thank you. \$40.

> Lenovo M500 projector: This 2.5-pound beauty makes it easy to bring your projector anywhere (multiple conference rooms, on the road or in the living room), and the quiet fan will keep you from having to raise your voice during your presentations. \$1,600.



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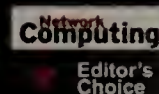
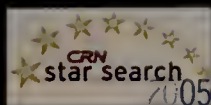
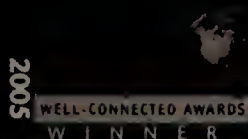
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Cool Yule Tools

continued from page 44

LG CU500 phone, with Cingular service: If you're a Cingular fan, you should consider this device. The CU500 delivered amazingly clear full-motion video, actually better than we get at work with wired Ethernet and better than our at-home DSL. No delay, no jitter and voice synched with video. The Cingular Media Net service provides access to tons of online data — news, weather, horoscopes, sports. The 4-ounce clamshell phone includes a nifty button that lets you multitask, and it comes with a 1.3-megapixel digital camera for shooting photos or 14-minutes of video. \$99 (plus service).

Audiovox D1726 7-inch portable DVD player: For years I've been jealous of all those mobile air travelers opening their portable DVD players to watch movies, while I get stuck watching "Cheaper By the Dozen 2." The price is definitely right for this great player, with a 7-inch widescreen display and 2.5-hour battery life. If you get bored with movies, the D1726 plays CDs and MP3 discs. A kickstand lets you place it on a hotel end table (or airline tray table), and a hand strap lets you connect it to a car visor for in-vehicle viewing. \$150.

Hot Diggity Dogger pop-up hot dog toaster: The coolest food product of the year, the Hot Diggity Dogger lets you cook two hot dogs and rolls in a toasterlike fashion. Experience the taste of grilled hot dogs during those cold winter months. You'll thank me later. \$49.

Kanguru Bio Drive: USB Flash drive with a built-in biometric fingerprint scanner and storage capacities from 256MB to 4GB. The only way to access files on the drive is to have your finger scanned. A good option to help keep files secured for mobile workers. \$100 to \$300, depending on capacity.

Oppeo LT-2007 LCD-TV/DVD combo: Stand-alone unit that combines a 20-inch LCD TV with a slot-loaded DVD player in the base of the unit, as well as speakers and additional video inputs to let you connect a game console (composite or component) and a PC monitor (VGA input). A great system to put in a kitchen, spare bedroom, dorm room or office. \$599.

See Cool Yule Tools, page 48

▲ Westinghouse Digital LTV-40w1 HDC TV:

While we love small gadgets, monster hardware also makes us grin. This awesome 40-inch high-def TV is so sweet it includes a slot-loaded DVD player in the base. \$1,900.

Sony Micro Vault Tiny (on screen): On the other hand, it doesn't hurt to have a USB device that's smaller than some people's fingernail and can store 1GB of files. \$55.

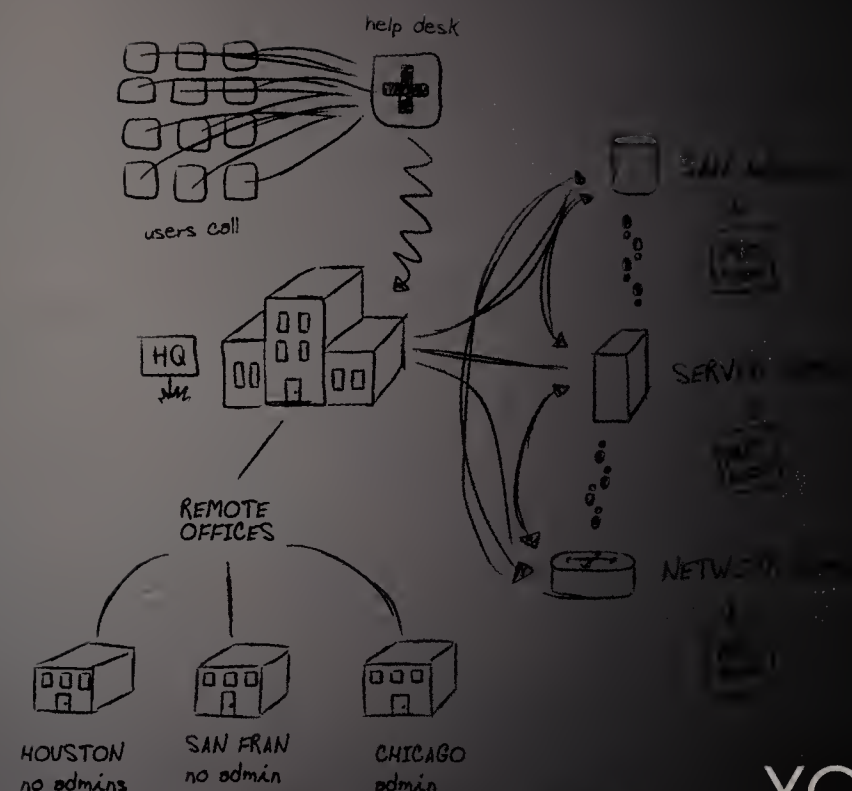
< **PowerSquid Calamari edition:** The coolest surge protector ever. There, we said it. Supports power adapters of any size, and also protects phone lines and cable lines. \$79.

> **Norcent Vion TV:** Another great combination of PC monitor, TV and video inputs (we hooked up our Xbox 360 to the component inputs) that provide us with an excuse to add a display in another room of the house. \$400.

< **JBL On Time:** Waking up to a crazy morning zoo crew on the radio is so 1990s. Wake up to your own tunes (or the Twisted Pair podcast!) with this combination iPod speaker/alarm clock. \$250.

v **Abcron Pillow Talk Stereo Memory Foam Pillow:** If you wake up with an iPod (see JBL On Time), you can go to sleep with one as well. Plug your music player into this pillow, which includes built-in speakers. \$49.





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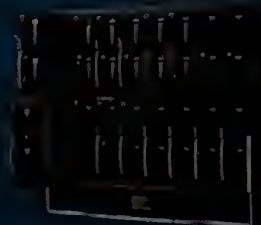
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Cool Yule Tools

continued from page 46

LG LX550 (Fusic) cell phone, with Sprint service: This cell phone is designed to showcase the high-speed downloads over Sprint's CDMA EV-DO network, and it does so with brilliant video and streaming music downloads. The phone has a 64MB microSD card, and can support a 2GB card. It was cool to be able to listen to Sirius satellite radio over the EV-DO network instead of a satellite connection, and the Fusic includes an FM transmitter that lets you play music from the phone to a car stereo or other FM radio. Changeable face plates let you alter the color of your phone. \$149 (after rebates, agreements).

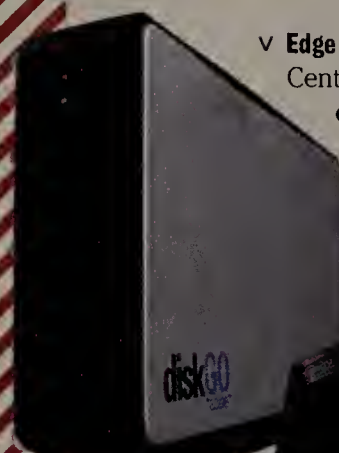
Franklin Electronic Publishers MWD-480 Merriam-Webster Dictionary and MP3 player: Only the people at Franklin Electronic could take an electronic dictionary, add an MP3 player and call it an integrated device. Yet once you realize that electronic books and podcasts come in MP3 files, it kind of makes sense to have a device that lets you listen to books or other voice audio and then have a handy electronic dictionary on the same device. If you're looking up a definition, and you don't know how to spell the word, the device offers suggestions on what it thought you were trying to type. Very cool. \$79.

Pandigital Digital Photo Frame: Pandigital ups the ante in the digital photo frame market, offering new models with different sizes (we tested the 8-inch version) as well as the ability to play MP3 audio files and MPEG-1, -4 and AVI video files, creating slide shows that are more than just static images. When one of our elves commented that the image on the screen "looks like a regular photograph in a frame," I knew this had to be on the list. For the design-conscious techie, the Pandigital model comes with a choice of two interchangeable frames for the outer part of the device — either black or acrylic — to match any office or home décor. The six-in-one media card should allow for any digital camera images to display directly from the device, or you can attach a USB cable to the frame and transfer images to the 64MB of internal memory (very large compared with other photo frames). \$199.



^ **ViewSonic N2751w:** Multiple video inputs, a compact size and a great picture make this the TV to have for a secondary room. \$650.

v **Edge Tech diskGo 3.5-inch network hard drive:** Centralized network storage for multiple computers, but in a package that fits into a laptop bag. Bring this on the road and access files from multiple PCs. \$155.



v **Epson PictureMate Snap:** The portable photo printer from Epson keeps getting better. This year's version adds faster printing speeds, more photo frames and instant red-eye removal without the user needing to connect to a PC. \$199.

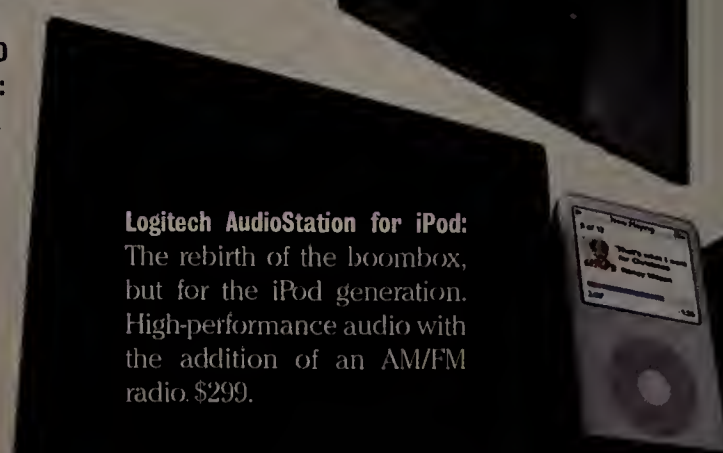


v **Fujitsu LifeBook Q2010:** If thin is still in, then this 2.2-pound notebook definitely is in. Fujitsu calls this model "executive jewelry," although we don't think you should wear this on a chain around your neck. \$2,000.

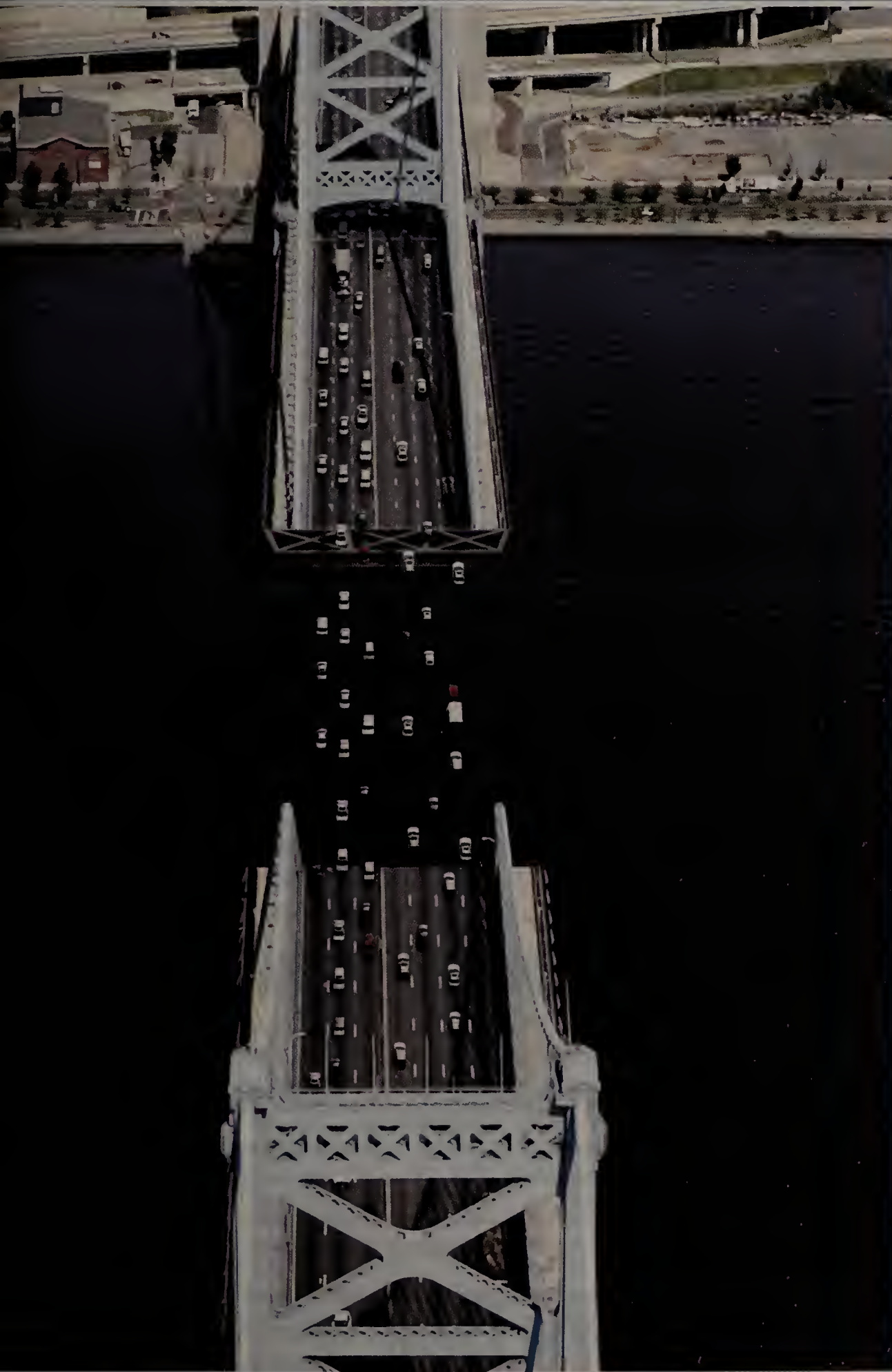


^ **Teac LP player/CD recorder (GF-350):** Find the boxes of old albums stored in your basement and start recording them to CD. A great system that lets you create CDs from vinyl albums, but also works as a stand-alone stereo system (with AM/FM radio and a CD player to boot). \$399.

Logitech AudioStation for iPod: The rebirth of the boombox, but for the iPod generation. High-performance audio with the addition of an AM/FM radio. \$299.



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In Their WORDS

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COMPANY: Netcordia

OVERVIEW: Founded in 2000, Netcordia develops NetMRI, an automated Best Practices based network management appliance. NetMRI is the most comprehensive, fully integrated network diagnostic tool for enterprise and government networks. This plug and play unit allows a network engineer to easily and quickly identify issues with respect to VoIP, configuration compliance, VLAN, and IP within the network.

CHALLENGE: As technology is becoming an integral part of everyday business, enterprises are placing more rigorous demands on their networks, expecting high reliability, rapid response time, consistency and compliance. These demands have network engineers searching for a way to proactively and cost-effectively manage the network infrastructure without utilizing too much staff time and energy.

SOLUTION: Netcordia provides the solution with NetMRI, an award-winning network analysis appliance that goes beyond reporting to provide analysis based upon expert rules and best practices. With NetMRI, network managers can optimize their networks, pinpointing and solving present and potential hot spots. What may have previously taken numerous IT professionals hundreds of hours to uncover, a single NetMRI unit now easily finds in minutes.

Monitoring and network management tools typically capture statistics from interfaces, links and protocols, draw maps and graphs and send real time alerts about fault conditions. NetMRI correlates the statistics and applies rules of logic for troubleshooting in a useful browser-based view or report. NetMRI takes the next step with its configuration capabilities that allow customers to automatically fix problems, and create their own custom best practices. NetMRI establishes accuracy, integrity and reliability in significantly less time than legacy offerings.

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E-MAIL NEWSLETTER SHOWCASE: Service provider news report

Feds making progress on IPv6

BY CAROLYN DUFFY MARSAN

IPv6 has reached the tipping point in the U.S. government market, says the second annual survey of federal, state and local agency IT executives released last week by Juniper.

IPv6 is a long-anticipated upgrade to the Internet's main communications protocol, known as IPv4. U.S. federal agencies are under a mandate to support IPv6 by 2008.

The latest Juniper survey found government agencies are making significant progress in IPv6 adoption:

- A majority of federal IT officials say that IPv6 is important in supporting their IT goals.
- Seventy percent say a lack of additional IPv4 addresses would have a negative impact on their agencies.
- The number of agencies that have written IPv6 transition plans has more than doubled from last year to 34% of defense agencies and 25% of civilian agencies.

"Civilian agencies are catching up to defense agencies. IPv6 is becoming part of everybody's future plans," says Tom Kreidler, vice president for federal operations at Juniper.

Despite the progress made, 86% of government IT officials say the fact that other countries are ahead in IPv6 adoption will negatively impact the U.S. in such areas as technological leadership, national security and Internet stability.

Survey respondents support the creation of a U.S. government IPv6 transition office that would standardize and coordinate the government's IPv6 transition efforts and define IPv6 milestones beyond 2008.

IPv6 promises easier administration, tighter security and an enhanced addressing scheme over IPv4. IPv6, which uses a 128-bit addressing scheme, supports a virtually limitless number of uniquely identified systems on the 'Net, while IPv4 supports only a few billion systems because it uses a 32-bit addressing scheme.

Developed a decade ago, IPv6 has been slow to catch on in the United States because U.S. government agencies and companies secured large blocks of IPv4 addresses when the Internet was first invented. IPv6 is more popular in Asia

and Europe, where IPv4 address space is scarce.

Juniper's latest IPv6 survey finds that attitudes in the U.S. federal market are shifting in favor of IPv6. For example, 62% of survey respondents say they are discussing IPv6 within their organizations, up from 57% a year ago.

More importantly, survey respondents say IPv6 will become increasingly significant in their IT purchasing decisions. Indeed, 68% of IT officials said they were more likely to choose a vendor that supports IPv6, and 30% said they were willing to pay more for IPv6 capabilities.

In terms of direct spending on IPv6 products and services, agency officials estimated their agencies would spend more than \$3 million in 2007, but that number would rise to more than \$8 million in 2008.

Government IT buyers anticipate a rapid deployment of IPv6 over the next five years. Respondents said that about a third of their agencies' current IT infrastructure includes IPv6-capable equipment, but that number would be double or more by 2011.

Interest in IPv6 is on the rise for state and local government officials, too. State and local IT officials say that direct spending on IPv6 products and services for their agencies would rise from \$1.3 million in 2007 to \$2.1 million in 2008.

"We just saw the first state and local RFP requesting IPv6. It was from California," says Lou Anne Brossman, director of U.S. public sector marketing for Juniper. "The state and local market seems to be keeping up with the same shift as the federal market."

Survey respondents want to see the U.S. government play a more active role in industry adoption of IPv6. More than half of respondents said the United States should provide guidance and some level of funding to support the U.S. industry transition to IPv6.

The survey was conducted by Juniper and SynExi. It consisted of an e-mail survey of more than 1,000 IT officials in military and civilian agencies. ■

E-MAIL NEWSLETTER SHOWCASE: Messaging

Problems with unified messaging?

BY MICHAEL OSTERMAN

Unified communications offers a number of benefits to organizations and users alike despite the fact that the technology has been promised for many years.

Unified messaging promises to make messaging easier to use and more efficient by integrating all communications into a single mailbox. Further, by using directories to drive a unified messaging infrastructure, recipients can define how they want to receive communications and senders won't have to think about the best way to send communications based on a particular message's urgency.

That said, unified messaging carries with it some significant issues that will have to be solved, including:

- **Storage.** This is the leading problem for e-mail managers, given that e-mail-related storage is increasing at more than 40% per year on average. By dumping voice and fax into a user's mailbox, storage requirements will

increase dramatically, requiring significant investments in storage systems.

- **Discovery.** Voice messages appear as .WAV files or equivalent in unified mailboxes. While the technology exists to convert these files to text for archiving and electronic discovery, few unified messaging shops do this. However, because voice in a unified messaging system is just another data type, how long will it be before voice messages become discoverable content.

- **Complete integration.** Will users want all their e-mail accounts to be integrated in a single unified communications system? Also, will users want all work-related accounts integrated into a single mailbox, or is there value in having a 'back channel' for communications that consumer IM or a personal Webmail account provides?

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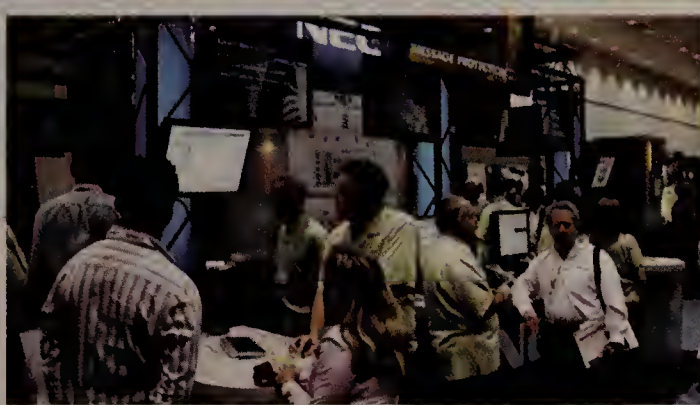
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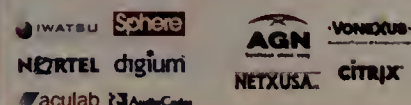
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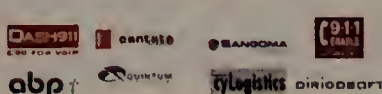
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E-MAIL NEWSLETTER SHOWCASE: Network/systems management

Vendors line up to incorporate virtualization

BY ANDI MANN

I have written about the importance of the stack — the combination of IT components such as the operating system, middleware, database, application and management technologies. In virtualization, a similar focus is emerging around the “virtualization ecosystem” — systems that add value to the basic virtualization layer, and which shift the focus from the underlying infrastructure to a business environment.

Last week at VMworld many vendors showcased support for this virtualization ecosystem. One example was VMware's new Virtual Appliance Marketplace, a selection of 300 prebuilt, preconfigured and ready-to-run enterprise software applications, packaged with an operating system and delivered within a pre-built virtual machine. While questions remain unanswered about these virtual appliances and the marketplace — including significant doubts about security, maintenance, compatibility, and licensing — they build on the

virtualization layer and add to the virtualization ecosystem to provide solutions.

Another company, Surgient, promoted its Virtual QA/Test Lab Management System, VMware announced VMware Lab Manager, and VMLogix unveiled VMLogix Lab Manager. Each product uses virtualization capabilities to help make application development faster, more effective and more efficient. Also Kidaro, which recently released Managed Workspace, uses virtualization capabilities to deliver functional isolation and security enhancements for user desktops. While each new product has differentiators, they all contribute to the virtualization ecosystem.

The virtualization ecosystem was also a strong part of the recent Microsoft and Novell partnership announcement, which will see Microsoft spending \$60 million over five years to market Linux and Windows virtualized scenarios. Speaking of Linux and open source, XenSource also announced last week its XenEnterprise for

Windows product. Based on the open source Xen hypervisor, XenEnterprise is a multi-platform virtualization product aimed at the mass market and builds on the ecosystem surrounding the open source Xen virtualization engine.

Nor is the ecosystem restricted to pure virtualization plays. Ecora automates compliance and best practice reporting by monitoring and controlling system, device and configuration change. The company announced a surge in requests for VMware ESX licenses — more than 500 new licenses

in the past 60 days. IBM also recently announced the latest version of IBM Director, which introduces new and significant capabilities to manage virtual systems on x86 and other hardware. And CA's latest release of Unicenter Advanced Systems Management included new functionality to integrate virtual and physical system management. These vendors are adding value by building up the virtualization ecosystem.

With the rapid commoditization of the virtualization layer, it is inevitable that the virtualization battles will be fought beyond the infrastructure and on fronts such as manageability, usability, partnerships, flexibility, ease of deployment, or ease of use. The emergence of the virtualization ecosystem is one indicator of this shifting focus.

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Mann is a senior analyst with Enterprise Management Associates, an IT analyst firm focused on enterprise management systems and services. He can be reached at amann@enterprisemanagement.com

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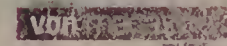
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The perils of overseas jobs

Getting terms in writing and planning for your return are the keys to success overseas.

BY ROB GARRETSON

Mitzi Pearce was a young IT manager at Bank of America in San Francisco when the opportunity to live and work abroad first presented itself. She was single, didn't own a house or car and was well qualified for a high-level assignment in Hong Kong managing the bank's data centers throughout Asia.

Now, 23 years later and with more than a decade of international management experience under her belt, Pearce, 53, is back at square one.

"It's embarrassing. I am a computer operator right now, which is where I started [and] is very frustrating to me," she says about her job at Arizona Public Service, an electric utility based in Phoenix. "I've had more staff under me than is working in our current data center. That's how desperate I was for work," she recalls about her return to the United States after working nearly 15 years in Hong Kong and London for several major international banks.

Though Pearce is happy with her current job and cherishes her experiences abroad, she cautions other IT professionals not to make the mistakes she made, which are all too common among managers lured by the glamour of an overseas post. Veteran expatriates, relocation specialists and IT recruiters agree that a careful, upfront analysis of the professional and personal aspects of an international assignment is critical to long-term success.

"Really, what matters is planning to come back," says Peter Woolford, a recruiter with Boston staffing firm Kforce. "You're sent off on this assignment, and when the assignment ends, whether it's a year or two years down the road, there's really no plan to reintegrate you into the company. And you're not around to advocate for yourself."

In fact, Bank of America did have a plan to repatriate Pearce and other team members who completed the three-year assignment to consolidate its Asian wholesale banking activities within its Hong Kong data center. In 1987, however, in the wake of a South American loan crisis and other types of turbulence in global financial markets, the bank didn't have the jobs available to fulfill the plan.

"They actually sent us back to interview for positions knowing that all these managers had been told there was a hiring freeze," Pearce recalls. Having been tipped off to the

situation back home, Pearce secured a job as a data center manager with a local bank that later was acquired by London-based Standard Chartered Bank, then returned to the United States to claim her repatriation allowance from Bank of America before heading back to Hong Kong for another 10 years.

IT professionals considering an overseas job or assignment should analyze all the personal, professional and financial aspects of the position. Above all, they should get the terms of the assignment, contingencies and future career options in writing from their employer.

"A clear and concise contract or relocation policy from your employer, stating all the services they will supply for you, is of the utmost importance," says Sandy Winter, a certified relocation professional who has been handling international relocations for 13 years at Mobility Services International in Newburyport, Mass.

Many large multinational companies offer predecision and predeparture services for expatriate employees, such as financial analysis, language training, counseling to address family considerations and cross-cultural information, she says. Key financial considerations include cost-of-living adjustments, including housing assistance in the host country and selling or maintaining the employee's present home; tax consulting to help the employee determine and mitigate the impact of foreign and U.S. taxes; and the impact if an employee's spouse isn't able to work abroad.

Failure to get such terms in writing drove the lesson home again for Pearce in 1997, when Standard Chartered Bank, on its third try, convinced her to move from Hong Kong to a position in London.

"They begged me to go. I agreed to go. I assumed I was going on full, expat terms," Pearce says — only to find that her manager had recruited her to fill a local job with only the pay and benefits given to locals. Having already given up her apartment in Hong Kong and moved all her belongings to London, she had little bargaining power.

"It was devastating to find yourself stranded in a country, thinking that you were going to get one set of benefits that had been offered to all of us as a group before, and then get over there and go, 'Oh, that's not the package.'"

Finding a good job in a foreign country or even back home after an extended assignment overseas can be challenging, as international experience isn't always as mar-



Mitzi Pearce's personal photos represent some of her experiences working in Asia.

ketable as expatriates assume. Plus, connecting potential employers with references who are 15 time zones away can be tough, Pearce says.

"I think it's an easy pitfall to fall into," Woolford says. "The best thing you can do is pay attention, right from the beginning, to what you're going to come back to and what the potential options are, and work on arranging those the entire time you're offshore," he says.

"I would advise anyone going on such an assignment to do some serious research, ask lots of questions and get all promises in writing," Pearce says. "For me, it really was a grand adventure, despite any difficulties with my employment status, and I wouldn't trade the experience for all the world. It was definitely not a good career choice in my case, and I could have protected my interests a lot better had I known more about what I was getting into." ■

Garretson is a freelance writer in Gaithersburg, Md. He can be reached at rgarretson@gmail.com.

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Foreign IT assignments

What to consider when evaluating an overseas assignment.

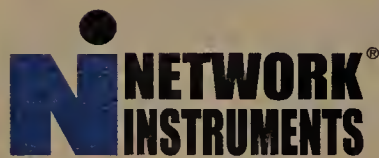
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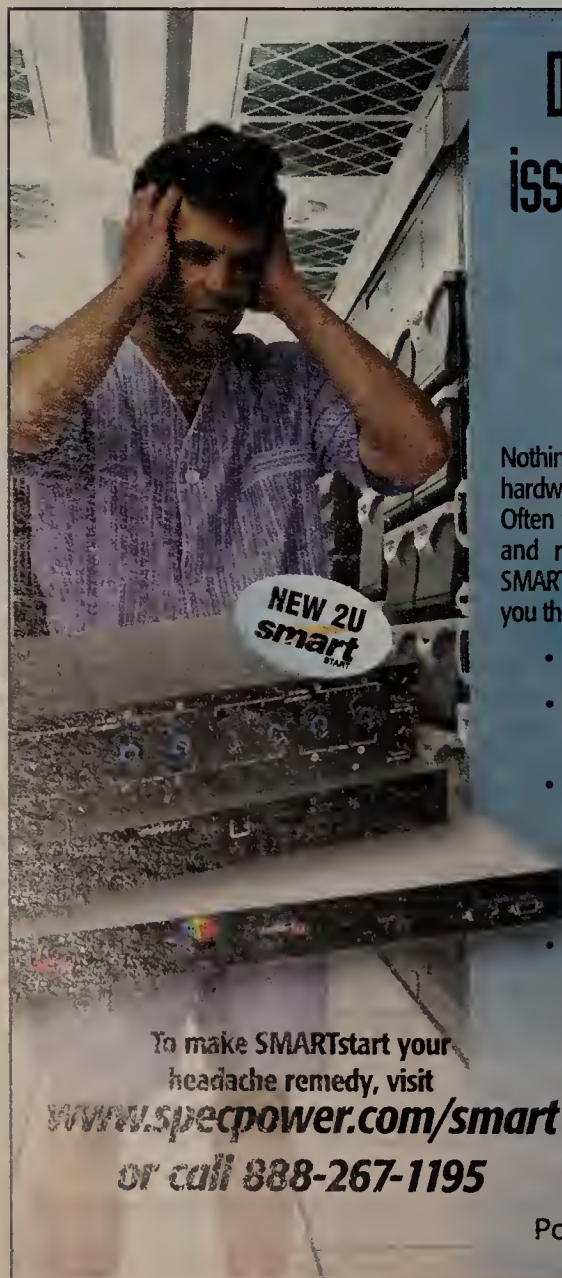
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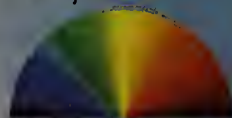
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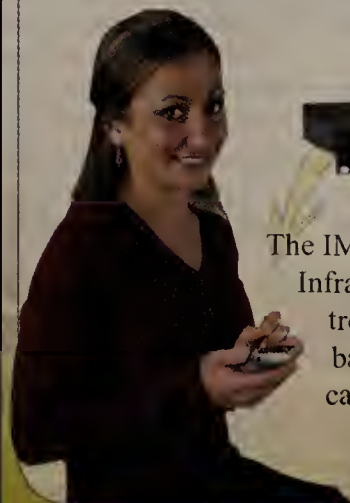
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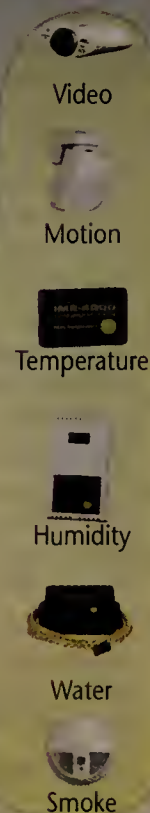


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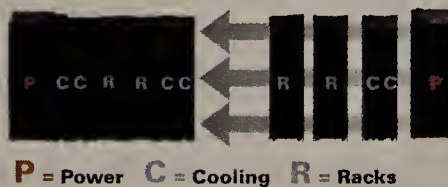
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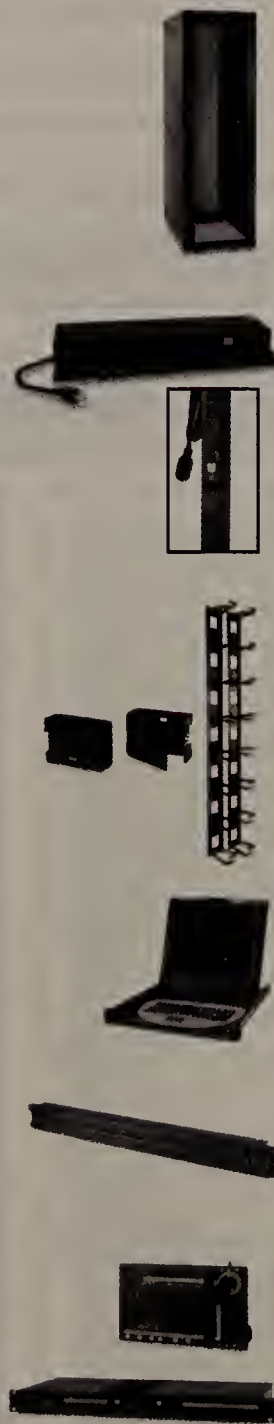
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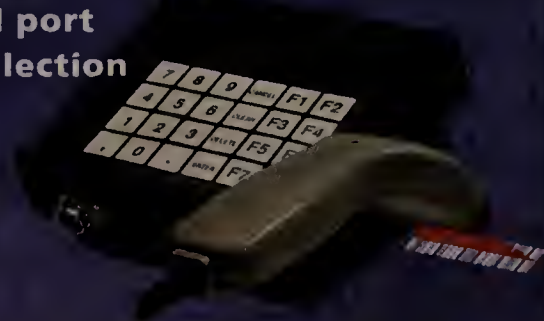
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have begun the second phase of a DTN project, funded by \$8.7 million from the Department of Defense's Defense Advanced Research Projects Agency. Earlier this year the researchers simulated a 20-node DTN. With each link available just 20% of the time, the network was able to deliver 100% of the packets transmitted.

"Using traditional [network] routing in the same scenario, and depending on the nature of the outages, there would be a very, very low percentage delivered, or none delivered," says Stephen Polit, project manager for BBN's DTN research, dubbed Spindle.

"Conventional routing protocols assume there is an end-to-end path, and this path is eventually [and fairly quickly] stable," says Rajesh Krishnan, senior scientist with BBN's Internetwork Research Group and a specialist in DTN. "Based on this, you compute routes and set your [router] forwarding tables."

But all that breaks down when the network ruptures because of repeated disconnections and long delays. BBN has developed a network protocol and code that moves information from node to node as connections become available, and can hold information in persistent storage until a connection is available.



To boost DieselNet's throughput, researchers are experimenting with throw boxes (the plastic oblong at the base of the pole), which are stationary wireless nodes. The throw box acts like a transfer point, holding packets from one passing bus and handing them off to another.

The BBN team now is pulling together a full reference implementation of its DTN routing protocol, called Bundle, and a hardware and software platform incorporating this implementation, for use by selected Department of Defense partners. Phase 2 also includes defining a set of APIs so that third parties can substitute their own code for some parts of the DTN system, and creating code that will let the DTN software elements run over different types of underlying network transports, such as Bluetooth, 802.11 WLAN and Ethernet. The goal is to have a working demonstration network by late 2007.

Diesel-powered DTN

You don't have to wait that long to see a DTN in operation, however. Just take the campus bus at the University of Massachusetts Amherst.

DieselNet, created by the university's Privacy, Internetworking, Security and Mobile Systems (Prisms) Lab, consists of off-the-shelf, single-board computers, GPS receivers and radios mounted in 40 UMass Transit System buses.

As one bus approaches another, their DTN nodes query each other to find out what other nodes each sees most frequently. If another node is related to the final network destination of a message, that message is handed off to the passing node in the seconds the buses are close enough for the Wi-Fi connection. At some point, the message is handed to a node attached to the wired Internet.

"This is harder than normal routing," says Brian Levine, associate professor in the Department of Computer Science, and one of Prisms' DieselNet researchers. "You can't query the net to determine what paths are available. Because there are none."

Tweaking throughput

At the start of DieselNet in spring 2006, the median amount of data transferred between buses was 1MB in 10 seconds, which was less than researchers had hoped for. But this fall, it's been running about half that amount in 8 seconds, and Levine and colleague Mark Corner, an assistant professor, admit they haven't figured out why.

They've been experimenting with a technique to improve throughput: stationary, stand-



DieselNet is a University of Massachusetts Amherst project to test a disruption-tolerant network installed on 40 buses. Network components are mounted in a compartment above the driver; the backplane of the computer is visible at right; on the left is a power converter, and behind it is an 802.11b access point. Also included: a GPS receiver.

alone wireless nodes, called "throw boxes." They're powered by a combination of solar panels and batteries, and sit on buildings along the bus routes. They act rather like a transfer point in a subway: A bus throws a packet to the box, where it waits until another bus comes along that can carry the packet further toward its destination.

Wireless laptops on the buses can access cached information, such as the bus route and schedule, which almost never changes. Other information, such as news and weather updates, changes more frequently, and DieselNet periodically broadcasts such information. The next step, Corner says, is to let users get information from the Web. "It will be a very different [user] experience, because delay is the penalty you pay [in a DTN]," Corner says. "You have to deliver the information before the people get off the bus."

DTN naming

Information access and delivery is where things get really complicated in disrupted networks. And the Spindle team is working on this problem at several levels.

If you want to search for information in a conventional network, you type the URL of your favorite search engine into your Web browser.

Then an infrastructure, including the Domain Name Service and routers with up-to-the-second information about other routers and their IP addresses, ensures that your browser blots

soms with the search engine home page in seconds at most.

In a disrupted network, however, that infrastructure breaks down or is not available. To compensate, the BBN researchers are combining the new routing protocol with a technique called "late binding." In a DTN, messages can be launched from a source node even though the final destination's IP address can't be known because of disruptions of name servers or routers. In effect, the message has blank spaces for the naming and address information.

"The message makes its way through the network, and the blanks get filled in," BBN's Krishnan says. Eventually, the destination IP address-binding takes place.

New caching model

At the same time, the BBN researchers are studying a new caching model for DTNs, to keep track of cached content and respond to information requests even though conventional search-and-access capabilities are unavailable because of disruptions. Krishnan and Polit envision a DTN in which information requests (who wants to know what) move through the network and meet information advertisements (who knows what).

A recent presentation uses the example of a Boy Scout troop hiking through the woods, led by their scoutmaster, Chuck, who has a wireless PDA with maps of his planned route. He gets lost nonetheless, and uses his PDA to request new maps from Google. If there's no WAN connection, the request can't go through.

With one version of a DTN, the request goes to the wireless PDAs, iPods and Sony PlayStation Personals carried by the scouts, but can't go any further because they don't have a WAN connection either.

With the kind of caching system described above, however, Chuck's request goes to these same wireless clients, which then check to see if they can satisfy the request from their caches. Scout Billy has maps of the area stored in the browser cache of his PlayStation Personal, which returns the map to Chuck's PDA.

"With a DTN, over space and time, as long as there is a path, you can move information forward and eventually you can communicate," Krishnan says. ■

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_INFRASTRUCTURE LOG

_DAY 22: We've taken "add an app, add a server" to the next level: complete insanity. The servers require constant attention. Our fingers are cramping from rebooting. Haven't left the office in days.

_DAY 23: "Insane" doesn't begin to describe it. Around-the-clock maintenance is turning our staff into an army of zombies. Hey, even the undead get time and a half.

_I don't want to spend another night in the server room. I want control. I want an i.





BACKSPIN Mark Gibbs

The Fourth Annual Golden Turkey Awards

Good evening ladies and gentlemen. Welcome to the Fourth Annual Golden Turkey Awards.

As usual, our goal is to celebrate individuals and entities that don't, won't or can't come to grips with reality, maturity, ethical behavior or social responsibility because of their blindness, self-imposed ignorance, thinly veiled political agenda, rapaciousness and greed, or blatant desire to return us to the Dark Ages. Without further ado, here are the targets of our righteous anger, barely concealed wrath, withering opprobrium and general disgust:

Contender 1: Sony BMG. Following its nomination in last year's Golden Turkeys for the digital rights management (DRM) fiasco, I had reason to revisit the company's sins in December last year (www.nwdocfinder.com/6152). The company was accused of fraud, false advertising, trespass, violations of state and federal statutes prohibiting malware, unauthorized computer tampering, and violating software copyrights as well as violating the Digital Millennium Copyright Act. Alas, by June the furor was pretty much over (www.nwdocfinder.com/6153). Being the artful dodger it is, Sony BMG's punishment was a hefty financial slap on the wrist. Ah, the benefits of friends in high places.

Contender 2: Cingular. If you were an AT&T Wireless customer, the last year has been awful because the acquisition by Cingular meant that you became, in cellular terms, a second-class citizen (www.nwdocfinder.com/6154). Cingular rode roughshod over the rights of their acquired customers and in the press there was nary a murmur. Did the FCC give a damn? No.

Contender 3: HP. How the mighty have fallen. A whirlwind of scandal, wrongdoing and incredible childishness has made one of the networking world's power players look like a hangout for spoiled, capricious, unprincipled children. The wave of resignations and legal fun and games provides a remarkable insight into the arrogance of people who apparently think their corporate power is some kind of armor against reality.

Contender 4: Novell. In bed with Microsoft! Bizarre. We can conclude that whatever Novell stood for is merely a memory. Worse still, its financial dealings with the dark side may well have set the fate of SUSE Linux to become just an interesting historical footnote.

Contender 5: The Social Security Administration. Last year I nominated this group for the gross exaggeration of my mother-in-law's death (www.nwdocfinder.com/6155). I nominate it again for making it so hard for her to be resurrected that it didn't happen until June this year.

Contender 6: Microsoft. Three words: Vista, late, still.

Contender 7: The Clean Port 80 (CP80) Initiative (www.nwdocfinder.com/6156). This ridiculous attempt to clean up the Internet is, thankfully, gone and not missed.

Contender 8: VirginMega and the French competition commission. The commission failed to force Apple to open its proprietary DRM system, FairPlay, because the main complaint brought by VirginMega was found to be groundless even though the commission "admitted ... that the lack of compatibility between rival music services and players did put consumers at a 'disadvantage', but that fact was beyond the scope of its enquiry." How wussy can you be?

Contender 9: All of the spammers, phishers and scammers out there. Specifically the idiots touting over-the-counter stocks, any bozo who subscribes me involuntarily to his pathetic newsletter (www.nwdocfinder.com/6157), and the Domain Registry of America (www.nwdocfinder.com/6158).

So, ladies and gentlemen, those are my nominations, what about yours? Which people, organizations and corporations have enraged, disgusted and appalled you since last Thanksgiving?

Spill the beans in the Golden Turkey Forum or drop a line to backspin@gibbs.com. Good night and may your gods go with you.



NETBUZZ News, insights and oddities

Presume 1% of the Web is porn: Is that a lot?

Paul McNamara

The answer to this question has apparently become relevant in a lawsuit brought by the American Civil Liberties Union against the U.S. government over the

long-dormant Children's Online Protection Act.

How much porn is really out there on the Internet? The answer is that about 1% of Web pages "contain sexually explicit material," according to a "confidential" analysis of Google and Microsoft search data done at the behest of the Department of Justice, which wants to reactivate the law that the ACLU successfully blocked.

But that 1% figure begs a second, apparently more significant question: Is 1% a lot — or not?

One newspaper headline from last week proclaims: "Study finds Web isn't teeming with sex." Another asserts that "99% of the Internet is porn free." So at least two headline writers believe that 1% is not a lot when the subject is Internet porn.

That's the ACLU's position, too. The civil liberties group argues that the study results do not bolster the government's attempt to revive the challenged law.

"One of the things we think came out of the government's study is that the chance of running into graphic content on the Web when filters are on is extremely low," ACLU attorney Catherine Crump told the *San Jose Mercury News*.

Hey, I'm as glad to see that law go as the next civil libertarian, but I can't help but notice the importance of "when filters are on" in that sentence.

But back to the number: What does 1% of Web pages really mean? The answer is truly a "go figure" and one would think you'd start with the total number of Web pages. Good luck. You can find all kinds of guesses out there on that figure ranging from tens of billions to hundreds of billions — take your pick.

Whatever you choose, though, you're talking a mighty big number, a number so big that 1% of it will leave you with a mighty big number.

So the question seems a bit silly. Of course 1% is a lot. Of course the Web is teeming with sex. There's a lot of smut on the Internet and children, left to their own

devices, will find it and it will find children.

And it strikes me that we didn't need a taxpayer-funded study to reach any of these conclusions. Nor do they justify ham-handed legislation.

A bad report card for Bank of America

Bank of America, which boasts of having more than 20 million active online customers, ranked dead last among 43 U.S. banks in terms of Web site availability for September and October, according to figures released last week by Pingdom, an uptime monitoring service in Sweden.

"The biggest is not always the best, at least not when it comes to Web site availability," said Pingdom in a press release. "Out of the sites surveyed, the Bank of America Web site was by far the worst. During September and October, their Web site was unavailable for a total of more than two days and three hours. This is almost twice as much as the First Bank Web site, the second worst."

A number of banks did very well by the Pingdom report, with a pair — KeyBank and Comerica — logging 100% uptime over the two-month period.

A Bank of America spokeswoman said she was "not familiar" with Pingdom or its methods, and pointed to a number of awards the bank has won for its online efforts.

A reader of my blog, who left only Meg for a name and an acknowledgement that she does work for the bank, offered a more spirited defense: "I think Pingdom is ignoring the fact that over September and October, Bank of America just completed the largest customer conversion in the history of the financial services industry when it brought MBNA customers and accounts onto the [Bank of America Corp.] systems. Two days and three hours of downtime to convert 40-million-plus credit card accounts is pretty damn amazing."

Hope she's right, since I recently opened an account with Bank of America.

Want to defend or flog the bank? The address is buzz@nww.com.



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